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ART. I.—FOREIGN CORRESPONDENCE.

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Note to the Reader:—[This letter, the first written by Dr. FLINT after his arrival in Paris, reached us after the letter contained in the August number was in type. But although so much delayed, we doubt not that it will be as interesting as if it were fresh from the pen of its writer.—ED.]

PARIS, April, 1854.

DEAR DOCTOR:—

I have not forgotten, even amidst the many attractive novelties which surround the stranger newly arrived in the gay capitol of France, my promise to send you letters from time to time, during my sojourn in Paris, and I hasten to give you the first proof of my mindfulness of this obligation. I have now been here but a fortnight. I have seen much in this short space of time, so much that I can hardly realize the period to have been so brief; but I have seen only a small part of all that the city contains to interest the medical observer. My time therefore has been chiefly occupied with visits at the different hospitals, and hearing different lectures. To-day I commence a regular course

of observations at the hospital *St. Louis*, under a private arrangement with one of the *internes*. Many of the hospitals I have not yet been able to visit, and many of the distinguished medical *savans* are yet to be seen and heard. To-day I will write of various matters *en melange*, and hereafter, if I am able to carry out my present intentions, I shall endeavor to follow some order in the subjects to which my letters will relate.

On my arrival at Paris I found that the veteran surgeon ROUX, had just died. The funeral obsequies had taken place but a few days before. The following notice of this event I translate from the *Press Médicale*, April 1st:—"France has lost one of those who have contributed most to her surgical glory. M. ROUX, who but lately seemed full of health and vigor, although he had arrived at an age rarely attained; M. ROUX has been, as it were, unexpectedly removed from the elevated position where he shone in the first rank, dying, it may almost be said, pen in hand, completing the scientific monument which will crown his long and laborious career. God who wills our destinies decided that the work to which the author had given the title of "*Forty years of Surgery*" should not be finished, or should be a posthumous production.

"M. ROUX leaves an imperishable name, a reputation which defies time and space. Friend and collaborator of BICHAT, he will participate in his honors and in the admiration accorded by posterity to his immortal genius.

"The obsequies of M. ROUX took place on Monday last at the Church of *Saint Germain des Prés*. The procession, composed of physicians, students, persons distinguished in science, letters and art, deputations from learned bodies, and teachers, increased at every step by the addition of groups of men and women who were waiting for its arrival to pay a debt of the heart to the memory of one who had attended them in sickness with a zeal and disinterestedness of which the poor will cherish a grateful remembrance. The vast nave of the church could scarcely contain the crowds who pressed towards it. The pall-bearers were MM. COMBES, President of the Academy of Sciences; PAUL DUBOIS, Dean of the Faculty of Medicine; DUBOIS, (d'Amiens,) perpetual Secretary of the Academy of Medicine; and DAVENNE, Director of Public Assistance.

"On leaving the Church a procession as large as before accompanied the mortal remains of the great surgeon to the cemetery of *Mont. Parnasse*, where they are to remain. There eloquent and impressive discourses were pronounced over the tomb by M. VELPEAU, in behalf of the Institute; by M. MALGAIGNE, in behalf of the Faculty of Medicine; by M. MARJOLIN, in behalf of the Society of Surgery; by M. FR. DUBOIS, in behalf of the Academy of Medicine; by M. LARREY, in behalf of the Military Surgeons; and by M. DUCHAUSSOY, in behalf of the Internes."

The funeral discourse of VELPEAU, which is given in full in the *Press Médicale*, is spoken of here as an eloquent and touching tribute to the memory of his distinguished *confrère*. It is thus spoken of the more because the author is not supposed to be much given to the melting mood. I quote the two closing paragraphs of his address, in which he uses the second person singular of the personal pronoun, a form of expression employed by the French in conversation with children only and very intimate friends:—

"Venerated master, faithful friend, thou hast nothing to fear in a future life, thou hast well served thy fellow men, thou hast finished a long and noble career! Thy memory will never perish; thy name, ever honored, will occupy a large and beautiful page in the history of learned and useful men.

"From the abode of the elect, God will permit thy noble spirit sometimes to direct a kind look to us; thou wilt know that among your old pupils there is one at least who will cherish thy memory, and preserve his gratitude to thee even to his last moments; one who in bidding thee a last adieu, tears himself away from thy coffin with a heart swelling with emotions of sincere sorrow."

Such language from the lips of VELPEAU will be read with interest by those who have seen his impassive mien in his surgical wards and amphitheatre.

The summer course of instruction at the *Ecole de Médicine*, commenced with the first of April. Lectures are now given by CRUVEILHIER on Pathological Anatomy; GRISOLLE on Therapeutics, and REQUIN on Legal Medicine. Clinical courses are commencing at several of the hospitals. TROUSSEAU, at the *Hôtel Dieu*, began his course the day after my arrival. He is at the present moment the most popular medical clinical teacher in Paris. In his ward

visits he is followed by a greater number than accompany any other hospital physician, and the amphitheatre, on the days of his lectures, (every other day,) is filled. At the Hospital *St. Antoine*, M. ARAN has commenced a clinical course, devoting on every Wednesday special attention to Auscultation and Percussion. M. PIORRY, at *La Charité*, is soon to commence a formal course. VELPEAU, BOUILLAUD, ANDRAL, RAYER, and BRIGUET are in daily attendance at *La Charité*. At the *Hôtel Dieu*, LUGOL and GRISOLLE are among those whose service is now going on. BARTH is on service at Hospital *Beaujon*, and at Hospital *St. Louis*, CAZENAVE and DEVERGIE. I give the names only of those whom I have seen. I shall write of certain hospitals and men more fully hereafter.

There is no lack of hospital opportunities. In fact they cannot all of them be improved simultaneously. The physician, or medical student, must select among the great number of hospitals and clinical teachers those of whom he desires to avail himself. The morning visits are made from 7 to 9 o'clock, A. M., and lectures, when they are given, follow directly the tour through the wards. This is before breakfast, the hour for the latter being in Paris from 10 to 12 o'clock. Visits in private practice are usually made after breakfast, or, in other words, in the afternoon, before dinner, which almost uniformly is at 9 o'clock, P. M. Admission to the hospitals during the hours of service is obtained without difficulty by any who are, or assume to be physicians. A person who bears a medical aspect passes without any question being asked, but if stopped by the *conceirge*, he is readily admitted on stating that he is a foreigner and a physician, or he is directed to the *bureau*, where on showing his passport, he receives a free ticket of admission, unlimited in time. With respect to freedom of access to all the hospitals for medical observation, nothing can be more liberal than the French system. If one wishes to visit and examine patients at other times than during the regular hour of service for the clinical professor, he must make an arrangement with an *interne*, who for a moderate fee, will at a different hour attend at the bedside, give any information that may be desired respecting the history, treatment, etc., of the cases, and at these visits any reasonable amount of examination of the cases is allowable. In this way

special diseases may be studied to any extent. The *internes* are well educated physicians, perfectly conversant with the current and most recent facts and views in this city, and as the income from these services, though small, is generally a very convenient perquisite; they are anxious to have private classes and to make themselves as useful as possible. Many of the *internes* are abundantly competent to give clinical lectures, and they are much more minutely acquainted with the hospital cases than the clinical professors.

Of the habits of different clininal professors in hospital service I shall probably write hereafter. I will remark now that generally those at whose service I have been present make their examinations very hastily, devoting but a very brief space of time to the patients individually, relying mainly on the *internes.* In this particular I am surprised and disappointed. Except at the service of M. ARAN, at the Hospital *St. Antoine*, I have as yet seen no records of sypmtoms made at the bedside, nor any evidence that such records are made. The professors certainly do not themselves take notes of the cases, and if they are taken by the internes they are not produced at the time of the professors' service. The only record made at the bed-side pertains to the treatment, dietetic and medicinal. This fact takes away much of the value which, under other circumstances, we might attach to deductions from the large experience afforded by the hospitals of Paris.

In addition to the didactic course at the *Ecole de Médicine* and the clinical courses at the numerous hospitals, private and special courses on the different branches of medicine, surgery and obstetrics are constantly going on. At least a dozen courses of the latter description are at this moment advertised to commence within a short period. Among these is a course on microscopical anatomy, healthy and morbid, by M. ROBIN. M. BERNARD, who has lately been appointed professor, is soon to begin his course on experimental physiology. Of these two courses especially I shall probably, at a future time, give you some account. The health of Paris at the present time is excellent. The *Gazette des Hôpitaux* states that usually during the month of March and April acute inflammatory affections, such as pleurisy, pneumonia, and catarrh are prevalent; but this year they have been extremely unfrequent.

The hospital patients are for the most part affected with chronic maladies. No epidemic disease now exists, but epidemic cholera has but lately disappeared, and in this fact we have an explanation of the remarkable immunity from other epidemic, and also acute affections. From a bulletin contained in the journal just named, April 8, I find that from the 1st of March to the 5th of April there had been received into the hospital two hundred and six cases, the number of deaths being one hundred and eight.

In looking over the medical journals, issued in Paris during the time I have been here, I find nothing of special interest. I shall bear in mind to send you anything which may appear that I may suppose will interest yourself, and the readers of your journal.

The weather since my arrival has been delightful. There has been no rain, save a shower on one day. The foliage of the garden of the Tuileries, opposite the open window at which I am seated, is luxuriant and rich, giving, at the early hour when I am writing, before the walks are crowded with people, the beauties of a rural prospect in the midst of this densely populated city.

With much esteem,

Yours truly,

AUSTIN FLINT.

Art. II.—DR. SAMUEL BROWN AS AN AUTHOR.

EXTRACT FROM AN UNPUBLISHED REPORT ON THE MEDICAL LITERATURE OF KENTUCKY, BY L. P. YANDELL, M. D.

A movement was made about the close of the last century towards the organization of the Medical Department of Transylvania University. Dr. Samuel Brown was elected Professor of the Theory and Practice of Medicine and Chemistry in 1799, and about the same time Dr. Frederick Ridgely, who had distinguished himself as a surgeon in the revolutionary army, delivered a course of lectures to a small class in the University. The latter, so far as we have been able to learn, has left no fruits of his pen behind him. He was a pupil and correspondent of Dr. Rush, and a physician of learning and skill. Dr. Brown has the credit, we believe, of having produced the first medical paper in Kentucky to be found on record. After graduating in Edinburgh, then the most famous school of medicine in the world, he settled in Lexington and shortly afterwards was honored with the appointment mentioned, but gave no lectures under it. About this time he became a contributor to the New York *Medical Repository*, at that time the only journal of medicine published in the United States. His communications were occasional and brief, consisting of familiar letters addressed to one of the editors. His first is not the one which bears the earliest date; it is dated Lexington, June, 1799, and is to be found in the fourth volume of the Medical Repository, p. 225, and is entitled "*A Curious Instance of Disease in which the feeling of the patient was abolished, while the power of motion remained unimpaired.*" The papers of Dr. Brown have an intrinsic interest, and besides this there is a curiosity about them as the earliest specimens of our medical literature. For this reason we shall give a somewhat copious abstract of his communications.

The subject of the first case was a lady of Bardstown, aged

about forty years, and when Dr. BROWN saw her, had been deprived for more than two years of sensation in her hands and feet. She was quite insensible to the effects of cutting instruments, or of having coals applied to them. "In one instance," Dr. B. remarks, "when she was engaged in shaping a piece of wood with a knife, she incautiously turned her eyes upon some other object, and cut off the end of the thumb of her left hand, without perceiving the smallest sense of pain. She cannot," continued Dr. B., "from her sensations, discover the least difference between a hot and a cold iron, and has frequently burnt the skin and flesh to a considerable depth by mistaking the one for the other. These wounds and burns heal without any uncommon difficulty. Notwithstanding this total loss of sensibility, she retains the power of motion in full perfection, and pursues her domestic employments without any remarkable inconveniece. All her animal and vital functions are in a natural, healthful state, and her spirits are regular,—nay, even cheerful. She feels no uneasiness from her complaint, except a sense of fulness in the veins. As the sense of touch is entirely lost, she finds it difficult to retain substances in her hands, and on turning her eyes aside often drops glasses, plates, etc., which she holds in safety as long as she looks at them."

In concluding his report Dr. BROWN remarks: "The doctrine of the nervous system is yet so much embarrassed with controverted facts and visionary theories that I shall not attempt an explanation of the phenomena of the above case. It is only by carefully noting and recording facts that we can hope to arrive at truth in our physiological investigations." He lived to see much of the obscurity which rested upon this system cleared up, and light and order substituted for visionary theories.

In the same volume of the *Repositiory* on a previous page (p. 223,) we have the report of a case by the same writer, dated November 10, 1800. It is entitled "Extraordinary case of a Man who appeared to have *Three Testicles*," The subject was a married man, thirty-seven years of age, the father of several children, and in excellent health. About two months before applying to Dr. BROWN, he perceived a slight uneasiness in the ring of the abdominal muscle on the right side, and felt a small tumor, which was easily pushed back into the abdomen. It was

suspended by a distinct cord, which, "in size and feeling exactly resembled those of the other two testicles." Dr. BROWN felt distinctly the action of the cremaster muscle as often as he directed the patient to retract the testicles, and was fully persuaded, as were also Dr. E. WARFIELD and Dr. MARSHALL who examined the case at his request, that the tumor was a veritable testicle.

This volume of the *Repository* contains the history of another remarkable case by Dr. BROWN. A young lady, aged about 19 years, punctured her foot with a nail, which gave rise to the most acute pain in the limb, extending to the knee, the hip, and the back. Tetanic rigidity followed. "A physician was sent for who unluckily was at a horse race and declined to visit her. He, however, sent a few anodyne pills which she took, but without any material advantage." The accident occurred on Sunday the 28th of October, and Dr. BROWN saw her the Wednesday following. He found the patient in extreme agony, with spasms in her back and neck, and acute pains in her ancle, knee, and hip joint. Not the slightest appearance of inflammation could be discerned in the puncture, but the heel was cold, the skin pale, and nothing but blood and serum could be pressed from the wound. He introduced a probe and was surprised to find that she was scarcely sensible of pain from a very harsh examination of the extent and direction of the puncture. At length the point of his probe came in contact with a part which possessed extreme sensibility. He made an incision with a scalpel across the heel quite down to the bone, on which the whole of the complaints seemed to be removed, and he flattered himself that he should be able to prevent a recurrence of the spasms. He washed the wound with spirits of turpentine, and having made a dossil of lint he covered it with powdered sulphate of copper and spirits of turpentine and pressed it down to the bottom of the incision. This application gave severe pain. A large dose of laudanum was given and repeated every four hours; a blister was also applied to the ancle, and a warm poultice to the heel. Two grains of calomel were ordered every hour when the patient was awake, and an ounce of mercurial ointment was rubbed into the legs, arms and back; and Dr. BROWN adds, that he endeavored to hasten salivation by rubbing calomel on the gums. She slept about two hours, and continued tolerable easy

until the next day, when her spasms returned and all the symptoms were greatly aggravated. Wine and bark, which had proved so efficacious in the hands of Dr. Rush, were tried, but the stomach immediately rejected them. Two ounces of mercurial ointment had now been rubbed in, twenty-two grains of calomel had been taken in the form of pills, and a scruple rubbed on the gums, when Dr. Brown, despairing of being able to excite ptyalism in time to prevent a fatal termination of the disease, directed fifteen drops of the tincture of cantharides every hour, until the symptoms of inflammation in the bowels should forbid its further exhibition. Hot poultices were continued to the wound, which was filled with the root of the phytolacca decandra. I conclude the history of the case in the words of the author.

"After the patient had taken 3jss. of the tincture of cantharides, she was seized with a sensation of heat and burning in the stomach, which, becoming more and more severe, extended through the whole course of the alimentary canal, and produced a number of stools, mixed with blood and mucus. The inflammation of the stomach occasioned vomiting, and the acute pains in her bowels resembled those which are felt in the most violent attacks of dysentery. *Immediately on the occurrence of these symptoms, all the tetanic affections disappeared, and never returned.* In order to mitigate the disease which I had produced in the alimentary canal I gave large quantities of mucilaginous drinks, and anodyne enemata, which afforded considerable ease. Fortunately, however, the day after this inflammatory state of the bowels came on, the mercury, which before seemed quite inert, began to show its effect on the salivary glands, and (as we have often seen in dysentery), removed the disease of the intestines. Some slight affection of the kidneys appeared, with bloody urine, but soon left the patient without any complaint, except a very moderate salivation, which continued for about two weeks. The wound began to form pus eight days after the accident, and was kept open several weeks, from an apprehension, that if closed, the spasms might return."

Dr. Brown closes his history of this interesting case with the following remarks:

"This case, which terminated so happily, is not communicated to the public as the foundation of any new favorite theory. The writer is sufficiently aware of the danger of deducing general inferences from solitary facts. Disappointed in the expectation of relieving his patient by the fashionable remedies, his practice was the result of that necessity which occasionally gives birth to the

most useful discoveries. He thought it his duty to communicate it with simplicity and candor, and hopes that those who practice medicine in climates where tetanus is a common disease, will strive to lessen its mortality, by giving cantharides a fair trial. It is well known that physicians are often under the necessity of combating one disease by creating another, and although it must be confessed that the inflammation of the stomach and bowels is attended with great danger, no practitioner will hesitate to affirm that tetanus is still more dangerous."

The fifth volume of the same work contains the details of an interesting case of *poisoning*, in a child, by the seeds of the *Datura stramonium*, communicated by Dr. Brown in a letter to Dr. Mitchill, one of the editors of the *Repository*. "On the 5th of April, 1801, he says, I was called a few miles from Lexington, to visit a child of Mr. George Bryan, aged two years. The following history of her complaint was given me by her relations. About 10 o'clock of the same day, she was observed to catch at the blaze of the fire in a very singular manner, and a few minutes after fall on the floor as if she had been paralysed on one side. In a short time symptoms of violent fever came on, with delirium and a scarlet efflorescence over the whole body, which had not entirely disappeared when I saw her first, at 12 o'clock, P. M. This efflorescence was much more bright and lively than that which characterizes scarlatina. Through the day the delirium continued with short intervals of reason. An unceasing disposition for motion in all the muscles, weeping, screaming, laughter, and rapid incoherent exclamation, formed the leading features of this disease, which to me was both new and alarming. Once or twice the child had made feeble efforts to vomit, which induced the family to believe that worms were the cause of these extraordinary symptoms. But I was impressed, from the beginning, with a firm conviction, that there was something in the case which I had not before seen in my practice. On presenting a candle to the child, I discovered an unusual dilatation of the pupils, and a remarkable squinting of the right eye, which, however, was not constant. The pulse was extremely irregular; sometimes it was hurried and fluttering, sometimes it was tense and strong, and frequently its action was not discernible. The motions of the limbs and body resembled those which mark the highest grade of

chorea sancti viti, but were much more convulsive and violent, and excited in the spectators rather a *painful* than a *ridiculous* emotion. Contemplating the case with great solicitude, it occurred to me that these strange symptoms might originate from the effects of the datura stramonium on the stomach, and I immediately inquired if that plant grew near the place, but was answered in the negative. On repeating my inquiries, however, one of the children informed me that she had given some seeds to another sister who was not indisposed, but firmly asserted tnat none had been taken by the one who was ill. This discovery, although not completely satisfactory, rendered my first conjecture still more probable, and I determined to act agreeably to it. I therefore administered a strong dose of emetic tartar. It was long before I could produce nausea; and as the first efforts to which were abortive, I made use of a feather, which excited one feeble motion. No seeds were discharged; and I found great difficulty, even by the feather, in awakening the powers of the stomach. I had lately read some remarks of M. HUMBOLDT, on the possibility of renovating the excitability by alkalies, after exhaustion by opium."

Carbonate of potash was accordingly given, "and had not reached the stomach two minutes," he continues, "when full vomiting took place, and seven seeds of the stramonium were thrown into a plate which Mr. BRYAN held that he might have an opportunity of proving the event of my prognostic." The little patient slept well afterwards, and though there were some convulsive symptoms with wildness of the countenance, next morning, in a day or two every complaint was removed."

In vol. II, p. 145, of the same work, Dr. B. gives an account of "*Two Cases of Convulsions, alternating with Insanity, relieved by violent pressure over the stomach.*" The cases were extraordinary. In the first, a man about twenty-five years of age was seized with convulsions while excited in an argument with a friend. The convulsive movements were succeeded by insanity, which, after a few moments, gave way to convulsions again. Before Dr. B. despaired of the efficacy of antispasmodics, he had given his patient two ounces of laudanum without producing any sensible effect. Recollecting, then, that he had seen cases of hysteria relieved by a bandage tied tightly round the body, he attempted to

apply one in this case, and in doing so pressed with some force against the stomach. He perceived an immediate change in the countenance of the patient, and on increasing the pressure the young man smiled and expressed himself relieved. On withdrawing his hand all the symptoms recurred, and were again relieved by the pressure. "From twelve o'clock until four," continues Dr. B., "the experiment was repeated at least ten times, with uniformly the same result. When the convulsions were strong, my own force was not sufficient to check them. Another person's strength was added occasionally. At four o'clock the patient went to sleep with my *whole weight* resting on my knee, which was placed over his stomach!" He gradually withdrew, and next morning found his patient free from spasms, with his understanding composed.

The second patient was a lady, about twenty years of age, who had been subject from her infancy to convulsions of an hysterical character, in one of which Dr. BROWN found her. He says, "I immediately pressed my knuckles with great force into the pit of the stomach, and in less than five minutes she was free from convulsions, and her mind composed. I withdrew my hand, and the complaint returned, as in the other case. I left a person with her to continue the pressure, and found her well the next day."

Dr. BROWN was a man of discursive mind and did not by any means limit his studies to medicine. He made short contributions to the American journals of science, none of them elaborate, but generally mere notices of some striking or curious phenomenon. In *Bruce's Journal* (vol. I., p. 100,) he has a brief account of the "Nitre caves of Kentucky;" and the sixth volume of the *Transactions of the American Philosophical Society* contains a paper from him on the same subject. He wrote to Prof. SILLIMAN, July, 1818, describing "a curious substance which accompanies the native Nitre of Kentucky and of Africa," and his letter is contained in the first volume of the *American Journal of Science and Art.*

This, we believe, is the sum of Dr. BROWN's contributions to the literature of his profession. He was not an author, although he possessed all the learning and the talents necessary to have rendered him a successful one. He had enjoyed the advantages of a

thorough classical and professional education, and his natural gifts were of a high order. His powers of observation were admirable; he was quick in his perceptions; wrote with ease, fluency, and grace, and in conversation was singularly pleasing, witty, brilliant, and impressive. His style of lecturing was conversational, and his lectures, delivered sitting, abounded in anecdote and humor. But he was averse to severe labor. He did not long pursue any inquiry, or adhere to any system, but rather amused himself with the novelties of the profession, which his active, inquisitive mind was sure to be one of the first to seize. It is to this cause that we are to ascribe the failure of a man so gifted by nature and so highly favored by fortune, to attain a high rank among American medical writers. He was Professor of the Theory and Practice of Medicine in Transylvania University from 1819 to 1825.

Dr. BROWN was the founder of the "*Kappa Lambda Society of Hippocrates*," an institution framed by his benevolent mind to bring harmony to the profession. He hoped to see every worthy physician in America enrolled among the members of the society, and thus, by becoming brethren in a double sense, be made to exhibit a fraternal spirit in their intercourse with each other. The conception fired his mind with all the zeal of an enthusiast, and he pursued the object with a full assurance of success. A journal of medicine, "*The North American Journal of Medicine and Surgery*," was set on foot in Philadelphia, in 1826, under the auspices of this society, and at once took a high rank for learning and ability among the medical journals of the country. It was edited by Drs. BELL, COATES, HODGE, MEIGS, and LA ROCHE, personal friends of Dr. BROWN and members of the society. Dr. BROWN died in Alabama, the 12th of January, 1830.

ART. III.—A CASE OF DRY GANGRENE.

BY DR. B. A. GAILBREATH, OF LOUISVILLE, KY.

Between 10 and 11 o'clock, on the night of the 19th of June last, I was called to see Mrs. S., aged about forty-seven years, who had been purging and vomiting at intervals of half an hour, or less, during the whole afternoon, and was then suffering much from cramps. I ordered the following:—

℞ Submur. Hydrarg.	gr.xxiv,
Pulv. Opii,	gr.x,
Plumbi Acetat.	gr.viii,
Gum Camphor,	gr.xii,

m. ft. pill no. 6. Two to be given every hour.

The following morning I found her much easier, the cramp mitigated, the vomiting and purging less frequent, but great prostration. She had taken but four of the pills during the night. I now directed forty drops of the following, every half hour with brandy.

℞ Tinct. Catechu,	
" Krameriæ, ā ā	ʒi,
" Opii,	
Sp. Ammoniæ, ā ā	ʒi.

In the evening I found her much revived; the purging and vomiting had ceased though there was considerable nausea, but no cramp. For the next two days she had no discharge from the bowels, complained of but little nausea, her pulse quick, weak and threadlike, and her skin moist and nearly natural. On the evening of the fourth day from the attack she complained that her left hand and wrist had not felt natural since the cramp in it, that the cramp in that hand had been most severe. Upon examination I could detect nothing in the appearance of the hand and arm or in its temperature to justify any course of treatment.

Five days from the commencement she expressed herself well, feeling a little weak, her bowels in good condition and her pulse pretty good. Deeming her convalescent I ceased to call.

Four days after I was again called to see her. She was suffering from great pain in the right hypochondrium, some fullness of the stomach and tenderness of the bowels, pulse full and quick, tongue coated with dark brown, and considerable heat of the skin. The discharges from the bowels were of a gray-ashy color. I directed calomel and opium to be given, and a blister to be applied over the pain, to be followed by a poultice. In the evening her pulse was rather weak, skin moist; my directions had not been followed, but in part, owing to the family being unable to procure the medicines. She now complained more of her hand and arm than she had formerly done; the wrist feeling stiff. There were at times quick, shooting pains along the course of the vessels from the elbow to the ends of the fingers. On examination I found her hand and arm quite cool, the ends of the fingers particularly. I directed her arm and hand to be bathed in warm spirits, and the application of a stimulating liniment, with friction. For the next two days I observed but little change in her condition.

July 1st. Her bowels had been moved pretty freely, the discharges more natural; no tenderness of the bowels; complained less of her hand and arm.

2nd. No pain in the side, pulse pretty good; arm and hand cold and moist, with slight pain at intervals.

3rd. Complained of great pain in the arm and hand as far up as the elbow; to touch or move it produced the most excrutiating pain. The ends of her fingers had assumed a dark-blue color and were very cold; there was some swelling of the wrist and palm of the hand. A swelling was to be felt and distinctly observed on the right lobe of the liver, and there was some tenderness of the first dorsal vertebra. In a few days by proper treatment the swelling disappeared and a healthy action of the liver was set up.

During the ten days following the patient though rather weak, appeared well in every respect but her hand and arm. The swelling progressed slowly but steadily until it reached the elbow; the fingers to the second joint were dead, assuming a dark and dry appearance, and were quite hard; the hand and arm were of a dark reddish cast, cold and humid; destruction of the limb appeared inevitable, notwithstanding the whole catalogue of remedies, stimulant, excitant, &c., had been applied. Quinine, opium,

iron, gentian, and strychnia, had been given separately and combined, but afforded no relief. No pulsation of the artery could be perceived in the arm either above or below the elbow.

Amputation was now considered the only alternative, and that was thought to afford but little hope of recovery.

On the 17th the parts began to slough and a line of separation between the sound and diseased parts was to be seen obscurely, but sufficiently distinct to warrant amputation, which was accordingly done on the morning of the 18th with the assistance of Drs. BARTLET, HUNDLEY, and OWEN. Ten days have since elapsed and the patient is doing well with every prospect of recovery.

An examination of the amputated limb revealed nothing of the cause of the disease. The arteries were contracted to half their original diameter, and were coated thinly with blood, but upon separating this, no evidence of inflammation was visible. The veins appeared to be in a healthy condition.

July 27th, 1854.

Bibliographical Notices.

ART. IV.—*Types of Mankind:* or Ethnological researches, based upon the Ancient Monuments, Paintings, Sculptures, and Crania of Races, and upon their Natural, Geographical, Philosophical, and Biblical history: illustrated by selections from the inedited papers of SAMUEL GEORGE MORTON, M. D., (late President of the Academy of Natural Sciences at Philadelphia), and by additional contributions from Prof. L. AGASSIZ, LL. D; W. USHER, M. D.; and Prof. H. S. PATTERSON, M. D. By J. C. NOTT, M. D., Mobile, Alabama, and GEORGE R. GLIDDON, formerly U. S. Consul at Cairo. Philadelphia, 1854, Lippincott, Grambo, & Co.: pp. 738, 8vo.

ETHNOLOGY, or the Science of Races, is a branch of human knowledge which possesses interest for every class of readers. It touches every man, and involves questions of the greatest practical importance. Resting in part upon the sciences of Anatomy and Physiology, it challenges especially the attention of the physician; as a question of specific difference in the various races of men, it is one to excite the curiosity of the zoologist; and as it deals with the problem of man's origin upon the earth, it appeals with force to every inquisitive mind. It is not a question of science merely but one of religion also, and cannot be approached as a simple question in natural history, for it so happens that the "natural history" of man is indissolubly connected with his moral relations. No matter how much we may be disposed to divest the question of its psychological aspects, we attempt in vain to handle it as a question merely of time; its bearing upon the unseen future, upon the destiny of our race hereafter, will force itself upon the understanding. In regard to the animal races, when we have described the phenomena of their birth, their lives, and their dissolution,

we have completed their history; but not so of the human race. When man reaches the goal of his earthly existence he resolutely demands, "*is this all?*" He trusts to enter then upon another state of being and to continue his existence forever.

It may be that the moral bearing of Ethnology has tended to deter inquirers from this field of investigation, and explains the backward state in which this science is still found. The study of the "Types of Mankind" involves, necessarily, the question of the unity of their origin. The scientific inquiry becomes, unavoidably, a theological question, in which most naturalists are little inclined to engage. But the investigation is going on; ethnology is making progress; the question of the unity of the human race is being continually started, and there is no course left but to meet it openly and candidly in fair discussion.

The work of which the title is given at the head of this article contains an elaborate exposition of the subject, and boldly assumes the heretical side of the question. Its numerous authors are agreed in this, that the various races of men have descended, not from a single pair, but from numerous parents. They reject, altogether, the account of man's creation given in the scriptures. They hold, not only, that the five varieties of Blumenbach constitute different species, but that several species are included in several of these families; in a word, that as the various zones of the earth have their appropriate races of animals, so the various tribes of men have been created on the continents or islands to which they pertain. They do not go quite so far as Dr. Robert Knox, a late writer on ethnology, who insists that men, like other animals, not only originate in particular localities, but, like them, are tied down, by a law of their nature, to the localities from which they sprung. They are not yet prepared to admit this, but they are far from pronouncing it, as an another advocate of their doctrine has done, "a groundless fallacy." They think the experiment of transplanting a tribe of men into a foreign soil, has not yet been fully tried; it is now going on, on a pretty large scale, in this country.

The differences between the different races of men, in form, features and complexion are so great as at once to attract the attention of the most careless observer. They cannot escape remark;

every one is at once struck by them. The Indian, the Caucasian, and the African afford the most distinctive types, and in color and physiognomy these races differ so widely from each other, that one is not surprised at finding philosophers who insist that they form distinct species. How such diversity has been brought about, if not original; how peculiar types have been perpetuated since the earliest records of history; how the dispersion of the races has been accomplished in the period assigned by our common chronology, these are some of the great problems which the Ethnologist seeks to solve. The subject is environed with difficulties, and dogmatism is quite out of place in its discussion. We admit, with the ablest biblical critics, the difficulty of reconciling the proofs of the early existence of populous and highly civilized nations with the chronology founded upon the writings of Moses. We agree that it was not the purpose of the inspired historirn to give us an exact chronology, and that in his fragmentary record he has not even attempted a continuous genealogy. We are conscious of the injury done to the cause of sacred truth by a false interpretation of the scriptures, and are persuaded that "the unskilful insisting of our divines upon the literal sense of Moses," though it may not have "bred many hundred thousands of atheists," as some one has asserted, has been a fruitful source of infidelity. It will be wise in us of the present day in all controversies touching the divine record, if we avoid the error of those, in the time of Galileo, who staked the truth of the Bible against the Copernican system. The Copernican system has been universally received, and yet the faith of men in the truth of religion is as firm as ever.

Blumenbach, having with great labor collected the materials for a systematic account of the anatomical peculiarities of the different races of mankind, proposed a classification which has been generally adopted. He arranged them into five primary groups, chiefly according to color, and the configuration of the skull, and although it is admitted that these characters are not unvarying, none more permanent or distinctive have been discovered. The *Caucasian*, his first group, so called from Mount Caucasus, to which ancient traditions refer the origin of many celebrated nations, is made up of a great medley of races. Most of the European nations are included in this group, and the Georgian and Circas-

sian tribes, the most beautiful of the human race in form and feature, are regarded as its true types. All writers on Ethnology belong to this fortunate branch of the human family. The second group is the *Mongolian*, a very numerous branch, embracing the inhabitants of China and Japan, and also the Magyar race of Hungary, of which Kossuth is a noted specimen The *Ethiopian* comprises the third group, taking in the tribes of Africa, and the fourth and fifth are the *Indian* and the *Malayan*.

Finding it impossible to assign to all these groups any definite types of cranial configuration, Dr. PRICHARD, the most learned and able of all ethnological writers, divides the human race into *three* leading types according to the shape of the cranium. In the first, which corresponds to the caucasian family of BLUMENBACH, the form of the skull is *oval* or *elliptical*, and of the most perfect symmetry. It is the head of the ancient Greeks, elevated, of great capacity, the face small in proportion, giving the impression of moral and intellectual elevation,—the head of the dominant races of men. The *pyramidal* skull is characteristic, not only of the Mongolian, but also of the Indian and Malayan tribes of BLUMENBACH, remarkable for their high cheek bones, the flatness of the upper half of the face, and foreheads tapering upwards, giving their heads from the cheek bones up a pyramidal form. The eyes are more deeply set, and the opening of the lids, in most instances, has a decided obliquity. The face is larger in proportion to the cranium than it is in the preceding race, indicating more space for the organs of sensation and less for the brain, which confers superiority upon the race. The nations constituting this group are for the most part nomadic, though they stretch from the icy sea of our continent to the southern parts of Africa, and embrace Indians and Esquimaux, as well as the Bushmen and Hottentots. Dr. PRICHARD's third type is the *prognathous*, marked by great forward prominence of jaws. It is found in great perfection in most of the Negro races, but is by no means confined to them, being almost as striking in some of the tribes of Australia and Polynesia. The head is compressed at the side, the forehead retreats, the jaws project forwards, and the occiput backwards. The undue prominence of the jaws gives them a reduced facial angle and an *animal* as-

pect, which produces at once in the beholder the idea of degradation.

If we turn from the form to the capacity of the cranium in these several groups of the human family, we shall find the difference to be very great. The Caucasian stands foremost, and exceeds all the rest as much in the size as in the symmetry of his head. Dr. S. G. MORTON measured 623 human crania, to ascertain the relative size of the brain in the various races, and the following are some of his results, as given in the third volume of the *Transactions of the American Medical Association*. The *Teutonic* race embracing Anglo-Saxons, Anglo-Americans and Anglo-Irish, possess the greatest cranial capacity; and the nations at the other extreme of the scale are the ancient Peruvians and the Australians. The present tribes of American Indians have larger heads than the demi-civilized Peruvians and Mexicans. The negro brain is nine cubic inches less than the Teutonic, but three larger than the ancient Egyptian. The largest cranium, that of a Dutch gentleman, in the collection of Dr. MORTON had a capacity of 114 cubic inches, but the head of Mr. WEBSTER measured 122 inches. The following is Dr. MORTON's table of admeasurements:—

	Max.	Min.	Mean.		
German,	114	70	90	18	skulls measured.
English,	105	91	96	5	" "
American,	97	82	90	7	" "
Mexican,	92	67	79	22	" "
Peruvian,	101	58	75	155	" "
Native African,	99	65	83	62	" "
Hottentot,	83	68	75	3	" "
Australian,	83	63	75	8	" "

As the sum of all the admeasurements made, we may take 92 cubic inches as the average cranial capacity of the Teutonic tribe, the highest branch of the Caucasian group; the Celtic, another branch of the same family, has a capacity of 87 cubic inches; the Negro and the Chinese have, each, 83; the barbarous tribes of American Indians have 84; and the Toltecan family, the Australian and Hottentot, only 75—a difference between the highest and lowest families of nearly 20 inches. The brains of the highest branch of the Caucasian race are larger by one fourth than the

brains of the Malayan. And with the development of brain we mark an increasing capacity for mental culture and the refinements of civilization. All the nations of the earth that have become distinguished for intellectual advancement have belonged to the Caucasian race. The civilization, however, has not always been in strict proportion to the amount of brain; for it is evident from the memorials left behind them that the Toltecans, or Peruvians, once the dominant race of our continent, were a highly civilized people in comparison with the barbarous tribes of Indians by whom they were superseded. But the rule will generally hold, that the greater the cranial, the greater is the intellectual, capacity, and the greater the advancement in the social and moral scale. The nations of the *pyramidal* type of heads, as we have seen, are generally a barbarous, nomadic people; some of them wandering with their flocks and herds over the vast plains of Asia; others living by the chase, others supporting themselves by fishing along the shores of our northern seas, and others again subsisting upon insects, and such plants as grow spontaneously upon their native soil. And among the *prognathous* races, as the physiognomy leads us to expect, we find improvidence and destitution, an absence of all the arts that refine and elevate mankind, squalor, ignorance, and brutality.

But this brings us to the question whether these differences are so fixed and unvarying as to entitle them to be regarded as specific characters? A few details will be the most satisfactory answer to this question, and from them we shall be forced to infer, we think, that no specific distinction can be founded upon either the size or the shape of the cranium. As to shape, we believe we may safely appeal to common observation whether all the types of heads are not occasionally met with in the Caucasian family. Every day we meet with individuals, of undoubted Caucasian blood, exhibiting the pyramidal or prognathous form of head. And size is still less determinate. Who has not seen individuals of the African race with heads large and well-proportioned, and, on the other hand, members of the favored Caucasian race with brains so diminutive that they would scarcely fill the cranium of a Toltecan, Hottentot, or Malay? And as a nation, have we not seen that the ancient Egyptians, a branch of the Caucasian family, were not

equal, according to Dr. MORTON, in the size of their brains to the Negro race? Clearly then, as it appears to us, it is not philosophical to found a specific difference between families of the human race upon so varying a character as the form or size of the head.

Dr. PRICHARD, who has collected an immense body of testimony on this subject, remarks of the Mongolian group, that the peculiarities of the pyramidal skull are often found so much softened down, not in individuals alone, but in whole tribes of that race, as to approach the elliptical form; and states upon the authority of scientific travellers, that the same diversity prevails among the tribes which people Oceania. The skulls of the Malayan portion of the population are referable to the pyramidal type, but the savage races in and around Australia are as prognathous as the African Negroes; while "in many parts of the Polynesian Archipelago tribes of higher civilization are met with whose skulls can scarcely be distinguished from the best European forms." And so in regard to the indigenous races of our continent, if the pyramidal is the prevailing form of the skull, there are tribes which present a decidedly prognathous type, and others again that approach the elliptical form. M. D'ORBIGNY, a distinguished naturalist, speaking of what he has himself observed, says that "a Peruvian is more different from a Patagonian, and a Patagonian from a Guarini, than is a Greek from an Ethiopian or a Mongolian."

In regard to these facts one of two suppositions must be true; either that these tribes, inhabiting the same continent or group of islands, were originally of distinct stocks, or else that a transmutation may be effected, in the process of time, from one type to another. There are not wanting ethnologists who adopt the former explanation, and are ready to admit as many species as there are varieties of the human race; referring the aborigines of America as well as the Caucasian family, to "an infinite number of primitive stocks," and insisting that Celt, Saxon, Jew, Gipsey, Copt, Arabian, Norman, Hun, and Sarmatian, are specifically as well defined as Mongolian, Indian, Negro or Malayan. But let us inquire whether there are not facts which render the latter supposition highly probable, to say the least of it. In the work of Dr. PRICHARD to which we have referred, this laborious writer has

collected abundant evidence of this change from one type to another. The Turks afford a striking example of this change of physiognomy, that branch of the nation in Europe having acquired so much of the Caucasian type as to have led many writers to place it in that group rather than in the Mongolian. And yet there is no room to doubt that both branches have descended from a common stock. It is in the western branch that the change has taken place—a change from a lower to a higher type—and the explanation of it is, that this branch has made decided advances in civilization and the arts, while the Asiatic branch has remained stationary.

A more remarkable instance is presented in the Magyar race, the nobility of Hungary, one of the finest races, physically and intellectually, in Europe. The evidence is clear to the mind of Dr. Prichard, who has investigated it carefully, that this superior race of men is a branch of the great Northern-Asiatic stock, and "is closely allied in blood to the stupid and feeble Ostiaks, and the untameable Laplanders." Expelled some thousand years ago, by the Turks, from Great Hungary, they in turn drove out the Slavonian nations from the fertile parts of Hungary, which they have continued to occupy. They exchanged a rigorous, inhospitable climate—the wilderness of the Samoiedes—for a country of genial climate and fertile soil, and changed their habits of life with the change of homes, adopting for their wild, savage pursuits, the peaceful employments of agriculture. And the result we behold in the elevation of the physical and moral man. In the ten centuries that have passed away since their migration, their heads have been gradually losing the pyramidal form and assuming the elliptical, until they have "become a handsome people, of fine stature and regular European features." The illustrious Hungarian exile, to whose eloquent addresses some of our readers have listened, is, as we have already remarked, a specimen of this race. Dr. Prichard thinks there is no reason for regarding this improvement as due in any considerable degree to an intermixture of races, for the Magyars have continued distinct from the other people of Hungary. We must ascribe it, we think, to the meliorating influences of civilization.

Are we not every day witnesses ourselves of a similar change

in one of the races that make up our population? It is but a few centuries since the first Africans were brought to the shores of America, but we are sure we state the impression of many accurate observers when we say, that the descendants of the first Negroes have lost much of prognathous physiognomy of their ancestors. Our own observation agrees with that of the medical men who assured Sir Charles Lyell, during his recent tours in this country, that a gradual approximation is taking place, in the head and body of the Negroes, to the European model. We think we cannot be mistaken in the belief that each successive generation exhibits an improvement in these respects, especially in those of the race who live in close relation with their masters, and share to some extent in the advantages of education and an intellectual society. The contrast, not only in intelligence, but in form, gait, features, and expression, between such slaves, of certainly unmixed blood, and those who have been raised on plantations with but little intercourse with the whites, must have struck the most casual observer.

These are examples of change for the better—of an upward tendency of the race; unfortunately instances of the opposite tendency are far more numerous. "*Facilis descensus averni*," is a truth of which nations as well as individuals are constantly affording sad illustrations. The Irish who inhabit certain districts in Sligo, Mayo, and Leitrim, are the descendants of an athletic, comely race of men. Their fathers were driven by the British from Armagh and the south of Down, about two centuries ago. They have lived, generation after generation, in miserable hovels, dark, damp and unwholesome; subsisting upon a meagre diet, enslaved by ignorance and destitution. They are reduced in size to an average stature of little over five feet, and "are pot-bellied, bow-legged, and abortively featured; with open, projecting mouths, prominent teeth, and exposed gums; their advancing cheek-bones and depressed noses bearing barbarism on their very front." Such are the results, in one of the most exalted families of man, of the continued operation of such depressing causes as nakedness, hunger, ignorance and oppression. With these native Irish it has been brought about in the short space of two hundred years. There is no reason to doubt that under the same degra-

ding influences the deterioration would continue to go on, until in time it would be difficult to distinguish individuals of this highest branch of the human race from the most degraded of the Mongolian or Malay. Indeed, the physical resemblance of these wretched Irish to the natives of Australia is already such as to strike every traveler. The effect of starvation and ill treatment is found to be the same upon every branch of the human family, tending to reduce the physical frame to the same low type and level.

From the foregoing facts, bearing upon the *specific* unity or diversity of the human races, the following conclusions, clearly stated by Dr. Carpenter, may be drawn:

"1. That the physical constitution of man is peculiarly disposed, like that of the domesticated animals, to undergo variations.

2. That the extreme variations which present themselves between the races apparently the most removed from one another, are not greater in *degree* than those which exist between the different kinds of domesticated animals, which are known to have descended from a common stock; and that they are of the same *kind* with the variations which present themselvss in any one race of mankind; the difference of *degree* being clearly attributable, in the majority of cases, to the respective conditions under which such race exists.

3. That none of the variations, which have been pointed out as existing between the different races of mankind, have the least claim to be regarded as valid specific distinctions; being entirely destitute of that fixity, which is requisite to entitle them to such a rank; and exhibiting, in certain groups of each race, a tendency to pass into the characters of some other.

4. That, in the absence of any valid specific distinctions, we are required, by the universally received principles of zoological science, to regard all the races of mankind as belonging to the same species."

If we turn from the physiognomy to the *color* of the different races of mankind, we shall find it equally wanting in the character of fixity. Can the Ethiopian change his hue, is a phrase generally believed to express a physical impossibility; and, so long as the Ethiopian continues to live under a burning sun, surrounded by all the physical and moral circumstances which pertain to his native home, we have no doubt his skin will remain unchanged. But is it irue, that each race of men does still preserve

its original complexion, under all circumstances, in every change of climate? Let us look at some of the testimony on this subject.

The color of the skin was held by the older physiologists to depend upon a proper coloring tissue, termed the *rete mucosum*, which some anatomists fancied they had succeeded in demonstrating, and which was held to be much more amply developed in the dark-skinned than in the fair races; but later researches, aided by the microscope, have proved this to be an entire misconception of the structure. The color of the skin depends upon the epidermis, and the depth of the complexion is in proportion to the number and character of the pigment cells, the function of which is the generation of coloring matter of various hues. The shades of color vary with the amount and color of the pigment secreted.

Now, if we selected individuals of the several races presenting the typical complexion well-marked, it would be easy to make it appear that color affords sufficient grounds for a specific distinction. The white European, the black African, and the copper-colored Indian are separated so widely by this character that an instinctive belief is prone to refer them to a distinct parentage. We suppose that, in the absence of all prepossessions on the subject, the spontaneous deduction of the mind would be, that they were the offspring of different stocks. But when we examine more closely into the matter, and find the various races so shading off into each other that it becomes at last impossible to say where the white race ceases and the dark begins, we are compelled to give up this character also as one forming an impassable barrier between them. The distinction of color is not even maintained with constancy in the same race. We continually meet with individuals of the white race in whom the pigment secretion is so active, that they are not without some difficulty distinguished from the dark-skinned race; as, on the other hand, from the destitution of the pigment cells, we occasionally see *albinos* among Africans. This we observe in individual cases, but the remark is equally true in respect to tribes of men. For example, as stated by Dr. Prichard, in the great Indo-Atlantic family, which there is abundant reason to regard as having a common origin, we are presented with fair-skinned, blue-eyed races, and others of an olive hue, and others again who are decidedly black. Among

the branches of the Syro-Arabian stock similar varieties obtain, those on the high lands of Arabia having light complexions, and, not unfrequently, blue eyes and red hair, whilst those near Muscat present a sickly yellow hue, and those of the lower countries bordering on the Nile are nearly jet black.

The Jews, a people of marked physiognomy, who have been often cited as an example of the permanence of physical characteristics, afford, on the contrary, a remarkable illustration of the influence of climate in diversifying the complexion. Where this race inhabits among Celts and Saxons, blue eyes and flaxen hair are not uncommon; in Portugal their complexion is very dark; and those who have descended from families long resident in Cochin and the interior of Malabar, are said to be "so black as not to be distinguishable by their complexion from the native inhabitants." Dr. Prichard mentions the interesting fact that a colony of Jews just arrived at a town in Cochin, are still so fair as to be called "White Jews," the climate not having had time to produce its natural effect upon the new immigrants.

If we turn from the fair races to the natives of Africa, we shall find that among these people the complexion is by no means the uniform black generally supposed; but, on the contrary, we have the best authority of travelers for saying, that the diversity of color among the different inhabitants of this vast continent is very great. Some of the Kafir tribes are represented as being of a light brown complexion and reddish hair, and having, with these, features approaching a European type. The Hottentot is rather of a yellow complexion than a jet black; the Fulahs of Central Africa are of a dark copper color, resembling the Indian; while the natives of Africa on the Red Sea bear as strong a resemblance to the ancient Egyptians as to the true Negro race.

Thus we see the same race of people presenting almost every shade of complexion, the white and the black types so melting into each other that it becomes difficult to draw the line of separation between them. The third specific test has been proposed—the character of the *hair*—is a much less reliable test than either of the others, and therefore will detain us but a short time.

Until the microscope revealed its true structure, the hair was believed to afford a valid criterion by which races might be sepa-

rated from each other. The covering on the Negroe's head was maintained to be *wool* and not hair; but microscopic investigations have put this distinction to flight. The intimate structure of the Negroe's hair differs in nothing from that of the white and Indian races, save in the greater quantity of pigment which it contains. Nor is the hair of the darkest of these people always crisp and twisted, any more than that of the white race is always straight and flowing. We often meet with individuals belonging to the Caucasian family with hair so curly and frizzled as closely to resemble that of the African; and on the other hand we now and then encounter jet black Africans with smooth, flowing hair.

Other parts of this argument we shall be compelled to pass over with a single remark or two.

The physiological and psychological evidence in favor of the unity of the human race is such as few minds that have weighed it impartially have been able to gainsay or resist. An average duration of life among all the races nearly the same; the correspondence between the various epochs of life; the same duration of pregnancy; the same intervals of the catamenia, and of the time of their irruption and final cessation; the subjection of all the families of man to the same diseases, whether sporadic, contagious, or epidemic; and, finally, the fruitfulness attending the intercourse of all the races with each other—these are physiological facts which can be affirmed of no truly distinct species among the lower animals. Do they not proclaim the family of man to be one?

The psychological argument is so happily summed up by Dr. Prichard, in his Natural history of Man, that we adopt his words: "We contemplate, among all the diversified tribes, who are endowed with reason and speech, the same internal feelings, appetencies, and aversions; the same inward convictions, the same sentiments of subjection to invisible powers, and (more or less fully developed) of accountableness or responsibility to unseen avengers of wrong, and agents of retributive justice, from whose tribunal men cannot even by death escape. We find everywhere the same susceptibility, though not always in the same degree of forwardness or ripeness of improvement, of admitting the cultivation of those universal endowments, of opening the eyes of the

mind to the more clear and luminous views which Christianity unfolds, of becoming moulded to the institutions of religion and of civilized life: in a word, the same inward and mental nature is to be recognized in all the races of men."

The doctrine of the *diverse* origin of the races is urged in the work before us at great length, and with equal earnestness, and is sustained by a mass of historical testimony such as was never before presented on the subject. We have no hesitation in saying that it is much the ablest work yet produced on that side of the question. It is the production, as its title shows, of numerous pens. After a memoir of the lamented Morton, by Dr. Patterson, the first paper is a "Sketch of the Natural Provinces of the Animal World and their relation to the different Types of Man," by Prof. Agassiz. The aim of this paper is to show, that the range of the distinct types of the human race and of certain combinations of animals is the same; in other words, that each type of the race is associated with its peculiar *fauna*, and the theory is happily illustrated by a diagram at the end of the paper. Under the head *Negro*, we have, in this table, monkey, elephant, rhinoceros, hippopotamus, wart-hog, and giraffe, constituting the *types* of the fauna of Africa. Associated with the *Australian* race, we find the marsupial animals, the ant-eater, and the ornithorhynchus, as the proper fauna of that region; and so on. It may be that the learned author of this ingenious "Sketch" sometimes pushes a principle too far, but no one can read his generalizations on this subject without being struck with the highly philosophical character of this paper. As, to our minds, the most interesting chapter in this large book, we shall give the principal deductions of Prof. Agassiz on this subject. After referring to the fauna of the poles, he says:

"To the glacial zone, which incloses a single fauna, succeeds the temperate zone, included between the isothermes of 32°, and 74° Fahr., characterized by its pine forests, its amentacia, its maples, its walnuts, and its fruit trees, and from the midst of which arise like islands, lofty mountain chains or high table-lands, clothed with a vegetation which, in many respects, recalls that of the glacial regions. The geographical distribution of animals in this zone, forms several closely connected, but distinct combinations. It is the country of the terrestrial bear, of the wolf, the fox, the weasel, the marten, the otter, the lynx, the horse and the

ass, the boar, and a great number of stags, deer, elk, goats, sheep, bulls, hares, squirrels, rats, &c.; to which are added southward, a few representatives of the tropical zone.

"Wherever this zone is not modified by extensive and high table-lands and mountain chains, we may distinguish in it four *secondary* zones, approximating gradually to the character of the tropics, and presenting therefore a greater diversity in the types of its southern representation than we find among those of its northern boundaries. We have first, adjoining the arctics, a *sub-arctic* zone, with an almost uniform appearance in the old as well as the new world, in which pine forests prevail, the home of the moose; next, a *cold temperate zone*, in which amentaceous trees are combined with pines, the home of the fur animals; next, a *warm temperate zone*, in which the pines recede, whilst to the prevailing amentaceous trees a variety of evergreens are added, the chief seat of the culture of our fruit trees, and of the wheat; and a *sub-tropical zone*, in which a number of tropical forms are combined with those characteristic of the warm temperate zone. Yet there is throughout the whole of the temperate zone one feature prevailing; the repetition, under corresponding latitudes, but under different longitudes, of the same genera and families, represented in each botanical or zoological province by distinct so-called *analogous or representative species*, with a very few subordinate types, peculiar to each province; for it is not until we reach the tropical zone that we find distinct types prevailing in each fauna and flora. Again, owing to the inequalities of the surface, the secondary zones are more or less blended into one another, as, for instance, in the table-lands of Central Asia, and Western North America, where the whole temperate zone preserves the features of a cold temperate region; or the colder zones may appear like islands rising in the midst of the warmer ones, as the Pyrenees, the Alps, &c., the summits of which partake of the peculiarities of the arctic and sub-arctic zones, whilst the valleys at their base are characterized by the flora and fauna of the cold or warm temperate zones."

The temperate zone he divides into an *Asiatic*, a *European*, and an *American* realm, the fauna of which is migratory as the climate is variable.

"The temperate zone is not characterized, like the arctic, by one and the same fauna; it does not form, as the arctic does, one continuous zoological zone around the globe. Not only do the animals change from one hemisphere to another, but these differences exist even between various regions of the same hemisphere. The species belonging to the western countries of the old world are not identical with those of the eastern countries. It is true that they often resemble each other so closely, that until very re-

cently they have been confounded. It has been reserved, however, for modern zoology and botany to detect these nice distinctions. For instance, the coniferæ of the old world, even within the sub-arctic zone, are not identical with those of America. Instead of the Norway and the black pine, we have here the balsam and the white spruce; instead of the common fir, the *Pinus rigida;* instead of the European larch, the hacmatac, &c.; and farther south the differences are still more striking. In the temperate zone proper, the oaks, the beeches, the birches, the hornbeams, the hophornbeams, the chestnuts, the buttonwoods, the elms, the linden, the maples, and the walnuts, are represented in each continent by peculiar species differing more or less. Peculiar forms make here and there their appearance, such as the gum-trees, the tulip-trees, the magnolias. The evergreens are still more diversified,—we need only mention the camelias of Japan, and the kalmias of America as examples. Among the tropical forms extending into the warm temperate zone, we notice particularly the palmetto in the Southern United States, and the dwarf chamærops of southern Europe. The animal kingdom presents the same features. In Europe we have, for instance, the brown bear; in North America, the black bear; in Asia, the bear of Tubet: the European stag, and the European deer, are represented in North America by the Canadian stag, or wapiti, and the American deer; and in eastern Asia, by the musk deer. Instead of the mouflon, North America has the big-horn or mountain sheep, and Asia the argali. The North American buffalo is represented in Europe by the wild auerochs of Lithuania, and in Magnolia by the yak; the wildcats, the martens and weasels, the wolves and foxes, the squirrels and mice (excepting the imported house mouse), the birds, the reptiles, the fishes, the insects, the mollusks, &c., though more or less closely allied, are equally distinct specifically. The types peculiar to the Old or New world are few; among them may be mentioned the horse and ass, and the dromedary of Asia, and the opossum of North America; but upon this subject more details may be found in every text book of zoology and botany. We would only add, that in the present state of our knowledge we recognize the following combination of animals within the limits of the temperate zone, which may be considered as so many distinct zoological provinces or faunæ.

"In the *Asiatic realm*,—1st, a northeastern fauna, the *Japanese fauna;* 2d, a southeastern fauna, the *Chinese fauna* and a central fauna, the *Magnolian fauna*, followed westwards by the *Caspian fauna*, which partakes partly of the Asiatic and partly of the European zoological character; its most remarkable animal, antelope saiga, ranging west as far as southern Russia. The Japanese and the Chinese faunæ, stand to each other in the same relation as southern Europe and north Africa, and it remains to

be ascertained by farther investigations, whether the Japanese fauna ought to be sud-divided into a more eastern insular fauna, the *Japanese fauna proper*, and a more western continental fauna, which might be called the *Mandshurian* or *Tongousian* fauna."

The nations of men inhabiting those regions all belong to the Mongolian race, the natural limits of which correspond to the range of the Japanese, Chinese, Mongolian, and Caspian faunæ taken together.

The animals of the temperate zone of Europe Prof. A. divides into eight faunæ—a Scandinavian, a Russian, a Central European, one of southern Europe, one of Iran, a Syrian, an Egyptian, and the fauna of Atlas. "And here again," he remarks, "it cannot escape the attention of the careful observer that the European zoological realm is circumscribed within exactly the same limits as the so-called white race of man, including, as it does, the inhabitants of southwestern Asia, and of north Africa, with the lower parts of the valley of the Nile." It is curious :o remark farther, as he states, that the different sub-divisions of this race cover precisely the same ground as the special zoological provinces.

Of the fauna of our temperate zone he remarks—

"Though temperate America resembles closely, in its animal creation, the countries of Europe and Asia belonging to the same zone, we meet with physical and organic features in this continent which differ entirely from those of the Old World. The tropical realms, connected with those of the temperate zone, though bound together by some analogies, differ essentially from one another. Tropical Africa has hardly any species in common with Europe, though we may remember that the lion once extended to Greece, and that the jackal is to this day found upon some islands in the Adriatic, and in Morea. Tropical Asia differs equally from its temperate regions, and Australia forms a world by itself. Not so in southern America. The range of mountains which extends, in almost unbroken continuity, from the Arctic to Cape Horn, establishes a similarity between North and South America, which may be traced also, to a great degree, in its plants and animals. Entire families which are peculiar to this continent have their representatives in North, as well as South America, the cactus and didelphis, for instance; some species, as the puma, or American lion, may even be traced from Canada to Patagonia. In connection with these facts, we find that tropical America, though it has its peculiar types, as characteristic as those of tropical Africa, Asia, and Australia, does not furnish analogues of the giants of

Africa and Asia; its largest pachyderms being tapirs and pecaries, not elephants, rhinoceroses, and hippopotami; and its ruminants, the llamas and alpacas, and not camels and giraffes; whilst it reminds us, in many respects, of Australia, with which it has the type of marsupials, in common, though ruminants and pachyderms, and even monkeys, are entirely wanting there. Thus, with due qualification, it may be said, that the whole continent of America, when compared with the corresponding twin-continents of Europe-Africa or Asia-Australia, is characterized by a much greater uniformity of its natural productions, combined with a special localization of many of its subordinate types, which will justify the establishment of many special faunæ within its boundaries.

"With these facts before us, we may expect that there should be no great diversity among the tribes of man inhabiting this continent; and, indeed, the most extensive investigation of their peculiarities has led Dr. Morton to consider them as constituting but a single race, from the confines of the Esquimaux down to the southernmost extremity of the continent. But, at the same time, it should be remembered that, in accordance with the zoological character of the whole realm, this race is divided into an infinite number of small tribes, presenting more or less difference one from another.

"As to the special faunæ of the American continent, we may distinguish, within the temperate zone, a *Canadian fauna*, extending from Newfoundland across the great lakes to the base of the Rocky Mountains, a fauna of the *North American table-land*, a fauna of the *Northwest coast*, a fauna of the *middle United States*, a fauna of the *southern United States*, and a *California fauna*."

It is remarkable, when we consider how perfectly America is isolated from the continents of the Old World, that the correspondence should be so exact between the animals of our north temperate zone and those of Europe—the bear, the stag, the antelope, the goat, the sheep, and a species of the *bos* family entering into the fauna of each. There are only a few subordinate genera, of which the skunk and the opossum are examples, that are peculiar to this region of the American continent.

In tropical America the case is entirely different, there being there several distinct faunæ, many individuals of which have no representatives in the Old World. Its edentata and monkeys are peculiar; among pachyderms it has pecaries, which are not found elsewhere, and its marsupials differ entirely from those of Australia, as its ostriches do from those of all other countries.

"If we compare further the continents of the Old World with one another, we find a certain uniformity between the animals of Africa and tropical Asia. They have both elephants and rhinoceroses, though each has its peculiar species of these genera, which occur neither in America nor in Australia; whilst ceropitheci and antilopes prevail in Africa, and long-armed monkeys and stags in tropical Asia. Moreover, the black orangs are peculiar to Africa, and the red orangs to Asia. As to Australia it has neither monkeys nor pachyderms, nor edentata, but only marsupials and monotremes. We need therefore not carry these comparisons further to be satisfied that Africa, tropical Asia, and Australia constitute independent zoological realms.

"The continent of Africa south of the Atlas has a very uniform zoological character. This realm may however be subdivided, according to its local peculiarities, into a number of distinct faunæ. In its more northern parts we distinguish the fauna of the Sahara, and those of Nubia and Abyssinia; the latter of which extends over the Red Sea into the tropical parts of Arabia. These faunæ have been particularly studied by Ruppell and Ehrenberg, in whose works more may be found respecting the zoology of these regions. They are inhabited by two distinct races of men, the Nubians and Abyssinians, receding greatly in their features from the woolly-haired Negroes with flat broad noses, which cover the more central parts of the continent. But even here we may distinguish the fauna of Senegal from that of Guinea and that of the African Table land. In the first, we notice particularly the chimpanzee; in the second, the gorilla. There is no anthropoid monkey in the third. The fifth column of our Tableau gives figures of the most prominent animals of the genuine West African type. A fuller illustration of this subject might show, how peculiar tribes of Negroes cover the limits of the different faunæ of tropical Africa, and establish in this respect a parallelism between the nations of this continent and those of Europe."

The East Indian realm is the region of monkeys, which are not only its characteristic animals, but are here more diversified than they are found in any other quarter of the globe. Upon Borneo alone, an island not larger than Spain, eleven species exist, including the orang-outau.

Every reader has some knowledge of the wonders of the zoology of New Holland, its animals differing so completely from those of all other parts of the globe, as to constitute it a world in itself. Its extremely characteristic animals all belong to two families of the mammalia, the most humble of the class—the marsupials and monotremes. Its birds are strange, and were once gigantic. It

has neither edentata nor ruminants, pachyderms nor monkeys, but yet it has its "two races of men, the Australian in New Hol'and, and the Papuan upon the Islands."

No one, we think, after a review of these remarkable facts, could resist the conclusion at which Prof. AGASSIZ arrives, "that the presence of animals upon the earth is not determined by physical conditions, but established by the direct agency of a Creator." And if the arrangement of coal and iron ore and the position of strata in the earth are held to afford proofs of benevolent design, we see not why this distribution of animal species according to their fitness for particular places of abode should be esteemed a less striking evidence of Divine beneficence and wisdom. But we are not prepared to admit the other deduction, inferable from the premises of this distinguished naturalist, rather than distinctly announced by him as his belief, that "the races of men were primitively created in nations," and in the zones of which, for the most part, they are still the inhabitants. We see no end to the number of primitive, independent stocks that must be admitted if we once yield the doctrine of the unity of the race. We have *two* distinct stocks, as we have seen, for Australia, a country that affords hardly a dozen species of the mammalian family. The "European zoological realm" of Prof AGASSIZ embraces no less than *four* races, the Semitic, the Græco-Roman, the Celto-Germanic, and the Sclavic, all of which, we are to suppose, had "an independent origin." Each fauna of Africa is described as having at its head a specific tribe of Negroes; and within the boundaries of the East Indian realm, we are assured, there are "*three* distinct races." With the progress of science the multiplication of species is likely to go on, until, while the horse, the camel, the ox, and the sheep, lay a doubtful claim to more than one original each, the number of distinct races among men must become almost infinite.

Dr. ROBERT KNOX, of London, has already advanced to this point, and is confident that America will ultimately be depopulated because the nations now in possession of it are not its native inhabitants. Each race, he holds, is tied down eternally to its own proper zone.

"Under the influence of climate," he says, "the Saxon decays in Northern America, and in Australia he rears his offspring with

difficulty. He has changed his continental locality, a physiological law is against his naturalization there. Were the supplies from Europe not incessant, he could not stand his ground in these new continents. A *real native* permanent American or Australian race of pure Saxon blood, is a dream which can never be realized."

Look at the people of the United States, especially the women, he continues, and behold the depreciation!

"Already the United States man differs in appearance from the European; the ladies early lose their teeth; in both sexes the adipose cellular cushion interposed between the skin and the aponeuroses and muscles disappears, or at least loses its adipose portion; the muscles become stringy, and show themselves; the tendons appear on the surface; symptoms of decay manifest themselves. Now, what do these signs, added to the uncertainty of infant life in the Southern States, and the smallness of their families in the Northern, indicate? Not the conversion of the Anglo-Saxon into the red Indian, but warnings that the climate was not made for him, nor he for the climate."

It is true that all ethnologists who hold to the original diversity of the human race do not go so far as Dr. KNOX. A late American writer on the subject, Dr. CALDWELL, who in the main subscribed to all the sentiments of Dr. KNOX, denounced this conclusion, to which they seem naturally to lead, in the strongest terms. It is a "calumny" he said, "worn out by time," "overthrown and trampled on, upwards of sixty years ago, at the school where I received the rudiments of my English education." He declared the doctrine to be "stale, obsolete, and *repudiated*, if not actually forgotten, as unworthy of remembrance, by all enlightened and liberalized minds." Dr. KNOX, he added, in drawing "this disgusting and offensive picture" of the men and women of America, was guilty of "unsurpassed and unsurpassable mendacity;" and he expressed a doubt whether his brother ethnologist, while writing his book "was not either *monomaniacal* or *drunk*!"

Surely if ethnologists speak in this wise of the doctrines of one another, mankind in general may be excused for hesitating before they embrace them. We agree with Dr. CALDWELL, that a man has approached very near to the verge of insanity when he has persuaded himself that the Anglo-Saxon race is tending to extinction in America. But the learned authors of "Types of Mankind"

are by no means sure that Dr. KNOX is not right in his assertion. "Nature," they correctly say, "works not through a few generations, but through thousands of years," and "it is impossible to conjecture what time may effect." They add, "it would be a curious inquiry to investigate the physiological causes which have led to the destruction of ancient empires, and the disappearance of populations, like Egypt, Assyria, Greece and Rome. Many ancient nations were colonies from distant climes, and may have wasted away under the operation of laws that have operated slowly but surely." These authors are evidently not without misgivings that our great nation is destined to waste away, eventually, under the operation of this "physiological law" of the ethnologists.

Prof. AGASSIZ closes his lucid exposition, admirable equally for its broad scientific views and its calm, philosophical tone, with the remark, that in view of this question there are but two alternatives before us, viz:

"1st. Either mankind originated from a common stock, and all the different races with their peculiarities, in their present distribution, are to be ascribed to subsequent changes—an assumption for which there is no evidence whatever, and which leads at once to the admission that the diversity among animals is not an original one, nor their distribution determined by a general plan, established in the beginning of the Creation;—or

"2nd. We must acknowledge that the diversity among animals is a fact determined by the will of the Creator, and their geographical distribution part of the general plan which unites all organized beings into one great organic conception; whence it follows that what are called human races, down to their specialization as nations, are distinct primordial forms of the type of man."

Besides being opposed, as he alleges, "to all the modern results of science," Prof. AGASSIZ objects to the first of these alternatives, on the ground that "the consequences run inevitably into the Lamarkian development theory." Now it is curious that while this would seem to be the natural tendency of this doctrine, the very opposite is found to be the fact, the believers in the "development theory" being, according to our observation, those who also hold to the original diversity of the races of mankind. We have more than once mentioned the name of Dr. KNOX. He is represented as being a learned, and is unquestionably a bold, ethnologist; and we find him avowing his assent to this theory in

language as plain as he can use. He adopts the words of GEOFFROY ST. HILAIRE, that "there is but *one* animal, not many," that "*nothing was created as it is; all is development from a microscopic point.*" And this is well known to be equally the doctrine of SPIX, OKEN, and VON MARTIUS, names of the very highest authority with the ethnologists of this school. When we hear this writer further asserting, that "of man's origin we know nothing correctly," and find him questioning the benefits of Christianity, can it be a matter of surprise that the theory which conducts him to such conclusions should excite opposition in serious minds—nay, that it should be almost universally rejected? Principles are fairly estimated by the results to which they lead. Tried by this test, we must say that there is nothing in the *philosophical* theory of man's origin to recommend it to our faith. We do not denounce the theory; by the strength of evidence alone it must stand or fall. If it be the true doctrine it will ultimately triumph; but as it now stands we are compelled to say, that the absurdities in which its advocates have hitherto involved it furnish to our minds strong reasons for regarding it with grave distrust.

We have remarked upon the excellent tone which pervades the contribution of Prof. AGASSIZ to this volume. It is such as becomes a discussion involving questions so momentous, and in which the evidence is so far from being all on one side that the great majority of scientific men are arrayed against him. The same cannot be said of the temper in which some of the other contributors to the work have conducted the controversy. Some of the writers exhibit what we cannot help regarding as an overweening confidence in the truth of their positions, and indulge in a large amount of dogmatic assertion. The vexed question of the unity of the race they do not consider as any longer *sub judice;* they seem out of patience with the dullness of those who hesitate to embrace their theory; and brush aside the cherished doctrine of their conscientious opponents—the "*universally received doctrine*" according to Prof. AGASSIZ—as unceremoniously as if it were some mere scientific speculation. We submit, respectfully, that it is not in the best taste to denounce as "a vulgar error" a belief held as sacred by the vast majority of serious men, and deemed defensible by most men of science. There may possibly

be disputes in which offensive epithets are allowable, but surely a scientific inquiry like that before us is not one of the sort; and we cannot help thinking that such phrases as "sapient advocate," "mendacious instances," "illiterate advocates," &c., are unworthy of so grave a discussion. These writers are thoroughly persuaded of the truth of their position; the "*unity*-doctrine," they assert, is "shattered by Egyptian archæology, from the weather-vane to its foundations." It may be so, but undeniably the great body of scholars, and of men who have made physiology and zoology the study of their lives, are by no means convinced of the fact; and until the doctrine is more fully established, it strikes us that a tone a little less arrogant would be more becoming.

It would be easy to cite many examples of confident assertion upon points where the testimony is far from being conclusive, but we will content ourselves with a reference to a few which we have marked in the chapter, by Dr. Usher, on "*Geology and Paleontology in connection with human origins.*" Referring to some human bones found on the coast of Brazil, Dr. Usher exclaims:—

"Here, then, is one '*Homo Diluvii negator*,' to be coupled with Dr. Dowler's sub-cypress Indian, who dwelt on the site of New Orleans 57,600 years ago!"

In another paragraph he says:—

"These facts," (the discovery of human bones in a cave intermixed with the bones of extinct animals) "demonstrate that aboriginal man in America antedates the Mississippi alluvial, *because his bones are fossilized.*"

Again he asserts that—

"One human pelvis found near Natchez, by Dr. Dickeson, *is an undoubted fossil*,"

And again:—

"The drift abounds in fossil remains of animals; such as the elephant, mastodon, rhinoceros, hippopotamus, and other large mammalia. *These animals were destroyed by the same inundations which left the deposits we call drift;* yet the works and the remains of man have been found among them!"

In nearly every one of these statements so positively made, Dr. Usher is in direct opposition to other paleontologists. Sir Charles Lyell examined the "human pelvis" found by Dr. Dickeson, and

concluded, from his examination, that the bones were *not* fossilized. It is still a matter of dispute with geologists whether human bones have ever been found in a fossil state. That they have been discovered in caves, mingled with the exuviæ of extinct races of animals, is what the mode of sepulture with many nations of men would have taught us to expect. Nor is it strange that human bones and implements should, now and then, be found buried under the drift, with the remains of the mastodon. It is easy to understand how, washed by the rains into ravines, or deposited on the spot in graves, they were brought to their final resting-place long after the mastodon had perished from the earth. Paleontologists have repeatedly examined the human remains found in such situations, and their decision has almost uniformly been, that the bones bore the marks of a comparatively recent origin.

But admit that human bones have been found fossilized; admit that the human race does date back further than biblical critics and geologists have hitherto conjectured, still the Mosaic account of man's origin upon earth remains unimpeached. We have only to change the chronology which has heretofore obtained, and allow all the time necessary to the modifications which his solid remains and the varieties of the race have undergone. The sacred historian is not responsible for the interpretation put upon his writings by critics and commentators. His chronology is a matter of inference. We have no idea that it was any part of his design to teach men those branches of science, which, by their own unassisted faculties, they are able to comprehend and master; but his mission was to impart to them those great truths, touching their origin and destiny, which their own reason could never have attained. As to the time that has elapsed since the creation of man, the christian, for all that we can see, may be indifferent how its duration is determined, whether at six thousand or three times six thousand years; the sublime central doctrine, of his creation, at the end of the work, and in the likeness of his Creator, is not affected by the decision.

But we must close this article, and in doing so we are ready unreservedly to express our opinion of "Types of Mankind." It is a work of learning and ability. It embraces a vast amount of information, and exhibits great labor and pains, both in its writers

and publishers. But we are unable to see any great or desirable purpose its authors had in view in its publication. We can readily believe that it will help some, who wish to discredit revelation, to arguments for rejecting its teachings; but, we confess, we cannot divine any good that it is likely to accomplish.

ART. V.—*The Pathology and Treatment of Pulmonary Tuberculosis;* and of the local medication of Pharyngeal and Laryngeal diseases frequently mistaken for, or associated with, Phthisis. By JOHN HUGHES BENNETT, M. D., F. R. S. E., Professor of the Institutes of Medicine and of Clinical Medicine in the University of Edinburgh; Fellow and Censor of the Royal College of Physicians, Edinburgh; Member of the American Philosophical Society, and of various Medical Societies in Edinburgh, Paris, Vienna, Berlin, Stockholm, Copenhagen, &c., &c. Philadelphia: Blanchard & Lea. 1854.

In his preface to this work Dr. BENNETT remarks: "In the years 1839–40, the author found a remedy administered in the hospitals of Germany in cases of Pulmonary Tuberculosis, which had never been employed in his own country for that disease, although it had been successfully used there in rheumatism. This was Cod-liver Oil. He could not fail to be struck with the marked benefits which resulted from its employment in patients, who, had they been treated in British hospitals, would certainly have died. In 1841, therefore, he published a Monograph, giving an account of what was then known concerning that substance, and recommended it to his countrymen, from theoretical and practical considerations, as a valuable remedy in Phthisis Pulmonalis.

"For five years (1843–1848), the author held the position of Pathologist to the Royal Infirmary of this city, during which

period he performed and recorded the results of upwards of two thousand *post-mortem* examinations. Gradually, one great fact became impressed upon his mind, viz: that all organic diseases occasionally presented a tendency to spontaneous cure. He was repeatedly meeting with instances where, although death was occasioned by disease in one organ, there were others which presented traces of previously existing lesions which in some way had healed. In no organs were such appearances more common than in the lungs, and of no disease was evidence of a spontaneous cure more frequent than of Pulmonary Tuberculosis.

"Although it was generally considered by the profession that no remedy and no plan of treatment yet proposed could be depended on in cases of consumption, it was obvious to the author that if the process employed by nature could be discovered, and then imitated by art, we might ultimately arrive at the true principle of cure. Whenever, therefore, decided and unmistakable evidence of a spontaneous cure came before him, he carefully studied the circumstances which preceded it; and connecting these with the numerous observations which were simultaneously going on, as to the good effects of Cod liver Oil, he was gradually led to the rules of treatment which are developed in the following pages. These he has tested on a large scale in hospital and private practice. They have also been extensively tried by others who have followed his suggestions, so that he can now confidently recommend them to his professional brethren."

The multiplication of works on *tuberculosis*, within a few years, is gratifying evidence that the profession is beginning to feel confidence in the curability of consumption. Despair has given place to rational hope and scientific effort. Statistics bear testimony to the value of our altered mode of medication. The author of this work was one of the first English practitioners to adopt the practice which has been attended with such encouraging results. He contends that tubercular diseases will heal of themselves if the faulty nutrition of the system can be removed; and that, with this object, our efforts should be directed to the digestive rather than to the respiratory system. The kind of abnormal nutrition which exists is dependent, he thinks, on increased assimilation of the

albuminous, and diminished assimilation of the fatty portions of the food, and hence the plan of treatment is to cause the reception of the deficient elements.

We pass over all that Dr. BENNETT says on the pathology and nature of tubercle, to notice some more practical subjects. After discussing at some length the *arrestment* of pulmonary tuberculosis, he concludes with these remarks:—

"What has been now stated, must, I think, show that the arrestment of tubercular ulceration may take place in three ways: 1st. By the gradual transformation of the exudation into cretaceous and calcareous concretions. 2nd. By expectoration and absorption of the exudation, the collapse of the ulcerated walls, and formation of a cicatrix. 3rd. By the ulcerated walls becoming covered with a smooth membrane, remaining open, and constituting chronic cavities, which have occasionally been mistaken for dilated bronchi. It should not be overlooked that one or all of these modes of arrestment may be detected in the same lung, and that great diversities of appearance in the pulmonary texture may be thus occasioned. Moreover, the occurrence of black carbonaceous deposits is very apt to take place in the neighborhood of the cretaceous concretions and cicatrices, thus communicating increased density to the texture. This density and contraction in the pulmonary tissue also is, as Dr. Gardiner has shown, a cause of pulmonary emphysema in the air vesicles, a circumstance which has attracted the attention of many pathologists, and has even been considered to be essentially connected with the spontaneous cure of pulmonary caverns (Ramadge). This occasional result, however, is much to be dreaded, as it causes the dyspnœa not unfrequently observed to follow the removal of pulmonary tubercle. But the frequency with which all these various lesions are discovered, and their connection with the spontaneous cure of pulmonary tuberculosis, points out how much more commonly this lesion is arrested, than for a long period has been generally believed by the profession.

"From the preceding facts and observations, therefore, we are warranted in drawing the conclusion, that if during the advance of phthisis pulmonalis, those means can be discovered which check further tubercular exudation, and keep up the strength and nutritive processes of the economy, such tubercular exudations as have occurred will be rendered abortive, and that even large ulcerations will heal up and cicatrize. The important point practically is to ascertain what these means are, and how they may be put into operation."

His principles of *treatment* are thus stated:—

"From a study of the symptoms, causes, morbid anatomy, and

histology of pulmonary tuberculosis, we have been led to the conclusion that it is a disease of the primary digestion, causing: 1st. Impoverishment of the blood. 2nd. Exudations into the lung, which present the characters of tubercular exudation. 3rd. Owing to the successive formation and softening of these, and the ulcerations which follow in the pulmonary or other tissues, the destructive results which distinguish them. It has also been shown that circumstances which remove the mal-assimilation of food frequently check the tendency to repeated tubercular exudations, while those which previously existed become abortive, and that occasionally extensive excavations in the pulmonary tissue may, owing to like circumstances, heal up and cicatrize.

"But although the fact of the recovery from phthisis pulmonalis, even in its most advanced stage, can no longer be denied, it has been argued that this is entirely owing to the operations of nature, and that the physician can lay little claim to the result. Andral, who early admitted the occasional cicatrization of caverns, states this in the following words: "No fact," he says, "demonstrates that phthisis has been ever cured, for it is not art which operates in the cicatrization of caverns; it can only favor this, at most, by not opposing the operation of nature. For ages, remedies have been sought either to combat the disposition to tubercles or to destroy them when formed, and thus innumerable specifics have been employed and abandoned in turn, and chosen from every class of medicaments." But if it be true, according to Hoffman, that '*Medicus naturæ minister non magister est*,' it follows that, by carefully observing the operations of nature, learning her method of cure, imitating it as closely as possible, avoiding what she points out to be injurious, and furnishing what she evidently requires, we may at length arrive at rational indications of treatment. In short, a correct interpretation of the processes gone through during a spontaneous arrestment of the disease, must be the foundation for those principles which should regulate the interference of art.

"Now, a careful examination of phthisical cases will, I think, show that the great obstacles the practitioner has to contend with are the dyspeptic symptoms, which render all his efforts at nourishing the patient in the ordinary way useless. Such individuals have a most capricious appetite, frequently loathe all kinds of animal food; and it will be found that, even when they say that the appetite is good, and that they live well, the diet actually consumed is either deficient in quantity or in quality. Nothing, again, is more common in the progress of such cases than the temporary improvements which follow a change of diet, of locality, or of temperature. How frequently do poor patients, on coming into an hospital, get better merely from enjoying rest and the regular diet of the institution. How often, after a short journey,

or on reaching what has been considered a favorable locality, are the friends of consumptive patients in the higher classes rendered happy by the temporary marked improvement which takes place. I consider that such amendments will always be found commensurate to the stimulus given to the nutritive processes of the economy.

"From the foregoing considerations, it follows that the cure of pulmonary tuberculosis by art, will be proportionate to our power, 1. Of improving the faulty nutrition which is the cause of the exudation assuming a tubercular character. 2. Of favoring absorption of the exudation already poured out; and 3. Of preventing the recurrence of fresh exudations by careful attention to hygienic regulations. I propose making some observations on each of these heads, as preliminary to the special treatment of individual cases."

In regard to cod liver oil he says:—

"Since I introduced cod-liver oil to the notice of the profession in this country, as a remedy for phthisis, in 1841, I have continually prescribed it in hospital, dispensary, and private practice. I need not perhaps say that I have given it in a very large number of cases, and have observed its effects in all stages of the disease, and under almost every circumstance of age, sex, and condition. I have had the most extensive opportunities of examining the bodies of those who have died after taking it in considerable quantities, and am still observing the cases of many persons who may be said to have owed their lives to its employment. Further I have carefully watched the progress it has made in the good opinion of the professional public, and perused all that has been published regarding it in the literature of this and other countries. It were certainly easy for me, therefore, to write at great length on this subject; but it appears to me unnecessary to dwell on the utility of a remedy which the experience of the last twelve years in Scotland, and twenty years in Germany, has rendered so obvious. It need only be said with regard to cod-liver oil, that, although at first many eminent practitioners have felt more or less skeptical as to its value, and have therefore delayed giving it, I have not heard of one who, after employing it in a few cases, has retained any doubt as to its importance in scrofulous and consumptive cases.

"The general opinion of the profession, with regard to cod-liver oil, may be said to have fully confirmed what I formerly stated concerning it, in the following words, viz: "That no remedy has so rapidly restored the exhausted powers of the patient, improved the nutritive functions generally, stopped or diminished the emaciation, checked the perspiration, quieted the cough and expectoration, and produced a most favorable influence on the local

disease. Many individuals presenting the emaciation, profuse sweats, constant cough and expectoration, as most prominent symptoms, with a degree of weakness that prevents their standing alone, after a few weeks use of it, are enabled to get up with ease and walk about, with a visible improvement in their general health, and an increased amount of flesh. The physical signs of the disease may continue unaffected for some time, but if the treatment be continued, the moist gurgling rattles are exchanged for dry blowing sounds, which become more and more persistent, pectoriloquy is merged into bronchophony, the respiration is easier and a check is evidently given to the ulcerative process, and the formation of purulent matter in the air passages."

"The following is a summary of my views regarding cod-liver oil, as a remedy for pulmonary tuberculosis:—

"1. Cod-liver oil is, as M. Taufflieb pointed out, an *analeptic* and is indicated in all cases of deranged nutrition dependent on want of assimilation of fatty matter.

"2. It is readily digestible under circumstances where no other kind of animal food can be taken in sufficient quantity to furnish the tissues with a proper amount of fatty material.

"3. It operates by combining with the excess of albuminous constituents of the chyme, and forming in the villi and terminal lacteals those elementary molecules, of which the chyle is originally composed.

"4. Its effects in phthisis are, to nourish the body, which increases in bulk and in vigor; to check fresh exudations of tubercular matter; and to diminish the cough, expectoration, and perspiration.

"5. The common dose for an adult is a table-spoonful three times a day, which may often be increased to four, or even six, with advantage. When the stomach is irritable, however, the dose to commence with should be a tea or dessert spoonful.

"6. The kind of oil is of little importance therapeutically. The pure kinds are most agreeable to the palate; but the brown coarser kinds have long been used with advantage, and may still be employed with confidence whenever cheapness is an object.

"7. I have never observed its employment to induce pneumonia, or fatty disease of the liver or kidney, however long continued, although such complications of phthisis are exceedingly frequent."

Dr. BENNETT says he has seen mutton and pork chops do wonders in tuberculosis, and is convinced that other oily articles of food have occasionally been productive of great benefit; but he adds, as the result of much experience, that "no substance

hitherto known is so easily tolerated by the stomach, and is of such general application as an analeptic in tubercular diseases, as cod-liver oil."

He adds:—

But even this substance, in a few rare cases, cannot be retained on the stomach, and efforts have been make to introduce fat into the economy by some other channel, such as by the skin or rectum. Frictions with oil and unguents were largely employed by the ancients, and constituted part of the system of training their athletæ. More recent observations have shown that butchers, cooks, oil-men, tallow-chandlers, tanners, and other individuals who are continually coming in contact with fatty matter, are for the most part particularly robust and well nourished, and are less liable than others to tubercular disease. Dr. Simpson has lately noticed, that the children and young persons employed in wool factories, where large quantities of oil are daily used, are generally exempt from scrofula and from pulmonary consumption. This renders it probable that a certain amount of fat may, by entering the lymphatics of the skin, so affect the chyle as to render it more nutritive; and that, in cases where oil cannot, without great difficulty be tolerated by the stomach, advantage may be derived from introducing it through the integument. Such a practice, indeed, has been recommended by Dr. Baur of Tubingen, who has given several instances where the scrofulous disposition has been removed by rubbing in different kinds of oil. I have adopted this plan in a few cases, but having rarely met with patients who could not be induced to take the oil internally, under proper management, my experience of its effects, administered by the skin, has been very limited. Some time ago, I caused a cod-liver oil ointment, manufactured by the Messrs. Parker, of Leith Walk, to be used externally; but, unfortunately, the constant smell proved to be more disagreeable than the unpleasant taste and eructations. Even the purest vegetable oils, used externally, cause great trouble in applying them, stain the linen and dress, occasion in some, unpleasant sensations of uncleanliness, and, to the poor, are very costly. Still if oil be assimilated, however administered, it must, according to the principles I am contending for, be beneficial; and as the practice of inunction is now being very extensively tried, we shall soon have more exact means of judging of its value."

The remarks of Dr. Bennett on diet are highly judicious, and, in fact, all his practical observations are of so much interest that we regret our inability to make more numerous and more copious extracts. This regret however is diminished by the circumstance

that the work, being a small one, and at the same time, one of so much importance, is sure to arrest the attention of practitioners and be universally read.

ART. VI.—*The Modern Treatment of Syphilitic Diseases, both Primary and Secondary;* comprising the Treatment of Constitutional and Confirmed Syphilis by a safe and successful method; with numerous cases, formulæ, and Clinical observations. By LANGSTON PARKER, Surgeon to the Queen's Hospital, Birmingham. From the third, and entirely re-written London edition. Philadelphia: Blanchard & Lea. 1854.

The author of this treatise remarks, in his preface, that he "has now devoted nearly twenty years to the Therapeutics of Syphilis, more especially in its secondary and constitutional forms." In this time, without taking into consideration the extended field afforded him by a large hospital, he has personally treated more than eight thousand cases, and the results of his large experience are recorded in this work. Such a work could hardly fail to be valuable in an uncommon degree to the practitioner.

One would conclude from the number of treatises lately published in this country on the class of diseases to which this refers, that the subject was pretty thoroughly exhausted; but we believe it will turn out that the uncertainty which hangs over some of the more important topics pertaining to syphilis is in direct proportion to the multiplicity of the publications on the subject. In truth, we are not acquainted with a medical question concerning which a greater contrariety of opinion prevail than some questions relating to this disease. The most important question of all—the best mode of treating it—is by no means settled. Is mercury necessary or advisable in the treatment of these affections,

is a question to which a different answer would be given by different practitioners. And equally diverse are the views of surgeons in regard to the nature of the disorder. HUNTER, as is well known, perpetuated the doctrine down to our own times, that gonorrhea and syhpilis are forms of the same disease. Being held as the same, the treatment was for a long time the same in both, and so late as the period when Sir ASTLEY COOPER was appointed to Guy's Hospital, patients suffering from gonorrhea, we are told by him, were compelled to rub in so many drachms of mercurial ointment till a profuse salivation was induced. The views of HUNTER were opposed in his time by BENJAMIN BELL, of Edinburgh, but the popularity of the great London Surgeon bore down all opposition. Sir CHARLES BELL, the late professor of surgery in the University of Edinburgh held that a father would be unnatural who would submit a son with syphilis to any treatment except a mercurial one. But the present professors of that University entirely repudiate mercury in the treatment of all forms of syphilis, both primary and secondary.

From this it will be perceived that there are important points to be settled in respect to this disorder, and we regard the contribution of Mr. PARKER to the literature on the subject as timely and important. Both extremes of opinion held by the two schools, we have no doubt, are equally pernicious. One object of this work is to prove this, and we think the author makes it clear that entire abstinence from mercury in syphilis is as irrational as its indiscriminate use in all the varieties and stages of that affection. He remarks that "syphilis is modified and complicated in a variety of ways by the age, habits, and constitution of the patient; and that treatment can only be rational, successful, and safe, which is eclectic, and founded upon the actual nature and peculiarities of each individual case."

Of the two modes of treating syphilis—the simple, and the mercurial – Mr. PARKER thus briefly speaks:—

"The non-mercurial, simple, or physiological treatment of syphilis, then, consists in the employment of the means already passed in review, both local and constitutional, without having recourse to mercury as a specific therapeutic agent in their cure, and this may be adopted both in the primary and secondary forms of disease. It will be found, however, that the primary are very

much more easily cured than the secondary upon such a plan. It cannot be concealed, that the non-mercurial treatment does not always succeed in the cure of primary syphilis; and that, in a great number of cases, the cures are more apparent than real, the sores breaking out again when the patients return to their customary diet and occupations. Matters go on very well whilst a patient is limited to a rigid diet, and confined to bed, and watched in the wards of a hospital, but in private practice this cannot be done; and hence it has been found by military surgeons, that whilst they could cure the privates, they could not cure the officers on the non-mercurial plan. In the French memoirs of military surgery, the medical officers of the military hospital of Toulon state that, although the non-mercurial plan is useful in allaying the irritation or inflammatory symptoms which accompany primary venereal sores, yet they were compelled to resort to mercury to obtain radical cures. Fifty-two surgeons met at Nantes, in July, 1835, to discuss this question: they had five discussions; two only, one of whom was M. Devergie, declared themselves in favor of the physiological, or non-mercurial treatment of syphilis.

"As a general rule or principle, I never employ mercury except as an aperient, in the ordinary forms or earlier stages of primary venereal sores, except such sores have been tested by inoculation, and yielded a characteristic pustule. The immediate local or specific effect of the syphilitic virus produces a degree of irritation or inflammation on the parts to which it is applied, during the continuance of which mercury is, to say the least, injurious, except as an aperient; and it is not till rest, low diet, mild opiate or astringent washes, and other remedies just noticed, have failed in producing a cure, that mercury is to be thought of as a specific agent. When, however, all these have failed, and the case has assumed a perfectly chronic character, mercury may be used with every prospect of a beneficial result, and this is certainly the result of modern experience on this subject."

In regard to the best method of introducing mercury into the system, he remarks:—

"The treatment by friction is much more certain than by the internal administration of mercury. This method consists in rubbing in before the fire each night, till the proper effect is produced, from a scruple to a drachm of the stronger mercurial ointment. These frictions may be made on the inside of the thighs, in the popliteal space, on the soles of the feet, or in the axillæ. Frictions in the axillæ are of service in obstinate ulcerations of the throat. I very frequently employ them with complete success in this situation. Cullerier records the histories of two cases cured by mercurial friction in the axillæ, which had resisted its employment in other parts. Sir B. Brodie, (Lectures on Pathology and Surgery,

p. 242,) prefers this method, which was that of the late Mr. Pearson of the Lock Hospital, to all others; he believes that surgeons have gone back in their treatment of syphilis. Mr. Hunt (On Syphilitic Eruptions with especial reference to the use of Mercury) is of the same opinion. In reference to the treatment of infantile syphilis, it is clear that frictions are much more safe and efficacious than treatment by the mouth. "Very few of those children ultimately recover to whom mercury has been given internally; but I have not seen a single case in which the other method of treatment has failed." The frictions must be continued every night, or every other night till the gums swell, and the secretions of saliva is slightly increased; the intervals between the frictions must then be lenthened, but the effect kept kept up till sometime after the sore has healed, and its specific induration gone. We cannot, with Chelius and others, limit the number of frictions to nine, or twelve, or any specific number, they must be continued till the effects above mentioned are produced. That mercurial treatment by friction or by the mouth should succeed, it is absolutely essential that the patient should be confined to a warm room, and if possible to bed; exposure during a mercurial course sometimes entirely destroys the effect of the remedy. It is owing to an observance of these rules that patients in the hospital get cured, who are made to observe them, whilst private patients who neglect them or cannot observe them, whilst private patients who neglect them or cannot observe them, are not so fortunate. The diet during this treatment should be light, nutritious, and unstimulating; the older and more weakly the patient the better the diet; should he be young and plethoric, he should combine the hunger cure with the frictions. The treatment by friction is milder, safer, and more certain than that by the internal administration of mercury; but it is liable occasionally, though not so frequently, to produce the evils already alluded to when speaking of the use of that class of remedies. In certain cases, frictions of different preparations of mercury have been made on the gums and upon the tongue. I have tried them, but at best with little success."

He prefers fumigation in other forms:

"In a great number of primary diseases I prefer the treatment by fumigation, combined with the internal administration of a twentieth of a grain dose of the bichloride or biniodide, and a milk diet. In indurated chancre and primary phagedenic sores, the treatment does not fail, neither is it attended with accidents, such as diarrhœa, or salivation, once in a hundred times; it is as certain and as little hurtful as any treatment can possibly be.

"Between the years 1846 and 1850 I personally treated fifty-eight cases of indurated chancre in this way; none of the patients

were confined by the treatment, though I admit this would have been better could it have been accomplished, but in a great majority of syphilitic cases this is impossible; it is therefore our duty to frame some treatment that will be efficacious without such an important auxiliary. Diet can be observed, but rest in bed or confinement to a warm room cannot with a great mass of private patients. One case only out of the fifty-eight, up to the present period, has been followed by secondary symptoms, and that in the form of slight lepra with superficial ulceration of the throat, which occurred in three months after the primary disease. In five of these cases the sores were situated at the orifice of the urethra, and in one accompanied also by phymosis, the glans and prepuce were as hrrd as a scirrhous mamma; nevertheless the cure was perfect and the health unimpaired, although the patient was nearly fifty years of age.

"In primary ulcerative (not sloughing) phagedena, I have not as yet seen one single instance of failure. Salivation rarely accompanies treatment by moist fumigation, and this is prevented by the profuse sweating which the process occasions. If patients use an ordinary vapor bath whilst taking mercury internally, or employing it by friction, salivation very rarely takes place."

Sound practical sense characterizes every page of this work, and we recommend it with great confidence as a safe guide in the treatment of syphilis. It is full enough in its details for all the purposes of the practitioner, without being unnecessarily encumbered with cases, or discussions on scientific points.

ART. VII.—*Institutions for the Insane in Prussia, Austria and Germany.* By PLINY EARLE, M. D. One of the visiting Physicians to the Lunatic Asylum of the city of New York, late Physician to the Bloomingdale Asylum; Fellow of the College of Physicians and Surgeons of New York, and of the New York Academy of Medicine. New York: Samuel S. & William Wood, 1854. 8vo. pp. 245.

The author of this work is favorably known as one of the most enlightened and successful of American practitioners in diseases of the mind. Dr. EARLE has devoted a large portion of his life to the study of this class of affections, and the pages before us are the fruits of travels undertaken for the purpose of extending his knowledge of the treatment of the insane in Europe. As introductory to his account of the institutions for the insane in Germany, he presents a brief sketch of the medical literature of that country on the subject of insanity.

As early as 1783 a magazine chiefly devoted to the doctrines and treatment of mental disorders was commenced, but its existence was ephemeral. In 1805, Dr. REIL established a journal exclusively devoted to those subjects, but receiving but little support from his brethren, it was also soon discontinued. A second periodical by the same editor was not more fortunate. NASSE commenced a journal in 1818, which was published eight years, the influence of which upon the cause of the insane was highly favorable, disseminating as it did a knowledge of their wants, increasing the taste for the study of mental disorders, and awakening in its readers an interest in the improvement of hospitals.

The medical mind of Germany was soon divided between conflicting theories of mental alienation—the *somatic*, the *psychosomatic*, and the *spiritual*. Dr. EARLE remarks—

"There is not, according to my comprehension of the subject, entire unanimity of sentiment among the advocates of the Somatic doctrine. They all believe that the causative, conditional or necessary lesion in insanity is physical; but while some contend that it must be in the special organ of the mind, the brain, others

maintan that it may be in some of the other viscera. Among the supporters of the former theory, is Dr. J. B. Friedreich, of Anspach, in Bavaria, who has published, besides other works, an "Exposition of the Theories upon the Nature and the seat Mental Diseases." He denounces the psychical doctrine of Heinroth as "diabolical." It is not my intention, as this is not the place, even if I were qualified for the undertaking, to enter into a detailed exposition of that doctrine; but having expressed the denunciation of Friedreich, I cannot well avoid a few remarks.

The theory of Dr. Heinroth is based upon the assertion that insanity begins in vice—in a deterioration of the moral sentiments. Now, it appears to me that the great mass of observation furnishes testimony tending to disprove the truth of this assumption. If it be true, why have we not a greater number of insane, since vice, as Dr. Heinroth uses the term, is not generally considered to be of very limited prevalence among mankind? Wherefore are not all criminals affected with mental diseases? How is it that many persons of a blameless character, some of the most noble patterns of purity of life and uprightness of conduct, exemplars in benevolence and piety, are stricken by this awful visitant, while the burglar, the freebooter and the murderer are left unscathed?- Whence is it that mental alienation is so common in enlightened nations, and yet so rare among the aborigines? Is it because there is no vice among the American Indians, that, in all their various tribes, as is asserted by authors of undisputed authority, insanity is unknown? If it be so, then let us leave the bright haunts of civilization and hie away to the forests and the prairies: let us crush the foreheads of the Goliaths of Steam and the Printing Press, and shoulder the quiver and bend the bow amid the solitudes of the desert: let us give up the Bible and the Cross and 'bow down to idols of wood and stone.' But, no: no species of sophistical reasoning, how plausible soever upon a superficial examination, no metaphysical hair-splitting, how dexterously soever it may be performed, can ever answer the foregoing propositions in such manner as to reconcile them, in my opinion, with the premises of the argument of Heinroth's theory."

In Germany, as we should expect, the treatment of the insane is conducted upon the most elightened principles. Dr. EARLE speaks of the hospitals in high terms of praise—

"In most of the particulars of moral treatment, the German asylums are fully equal to those of the United States. In the most important point of all—if reference be had to curative treatment, or the quietude, order and hygienic condition of the patients —that of manual employment for the inmates, they are superior. The radical source of this superiority lies, undoubtedly, not in the

more ardent wishes or the greater efforts of their superintendents for the welfare of the patients—for, in these respects, none can excel the officers of the American asylums—but in the education of the people, and the nature of the political governments under which they live. Obedience to authority becomes, by education, more a matter of principle or of habit. Furthermore, the asylums are more independent than ours, and the retention and management of patients more optional with the officers."

"In 1830, a period at which there were but five institutions for the insane in the United States, when comparatively little had here been written upon the subject, Dr. Riedel published a description of the Asylum at Prague, in which, so far as regards the moral treatment, he took a position nearly, if not quite, as advanced as that of any author of later days. Dr. Julius, who visited the institutions of Great Britain a few years since, and presented a report thereupon to the Prusian government, expresses his opinion, in the letter already quoted, that, in Germany, "the moral treatment of the insane is more generally understood than anywhere else."

"In regard to the use of restraining apparatus, the opinions and the consequent practice of the several superintendents, are somewhat at variance; yet all, so far as I am acquainted, concur in the belief that those means of restraint should not be wholly abandoned. Drs. Jacobi and Damerow opposes the doctrine of non-restraint promulgated by some of the English physicians; and, upon the same subject, Dr. Roller writes as follows: 'The physicians of Illenau are not unacquainted with that which has been done in England, but they consider the subject as not yet sufficiently investigated to authorize a judgment. They doubt that the many reasons for diminishing the means of restaint, demand also, their entire banishment; and that this, if it be practicable, is advisable.'"

The following extract is interesting:

"A short time before my departure for Europe, I somewhere read the assertion that no blind person was ever known to be insane. Although then in possession of evidence disproving the statement, I nevertheless made it a special point of inquiry at most of the institutions which I visited, and have recorded the results in their proper places. The use of tobacco, among the patients, was another subject of special inquiry; but I found the practice to be so general that the mention of it is frequently omitted. Smoking is invariably permitted, so far as my knowledge extends; snuff is very generally used, to some extent, but I neither saw nor heard of any patient who chewed tobacco."

We have not room to give details of the institutions of Germany

devoted to the insane, but we assure our readers, that they will find a rich fund of instruction, and narratives of great interest in these pages of Dr. EARLE.

Editorial Department.

TRIAL FOR MANSLAUGHTER—MEDICAL TESTIMONY.

WE copy the following report of a trial for Manslaughter from the *Boston Medical and Surgical Journal*. The trial occurred at Janesville, Wisconsin, and is of a character to interest our readers independently of the part performed in it by members of the medical profession; but taken in connection with the testimony of some of the medical witnesses, it is certainly one of the most curious on record. That such testimony should be given in court by physicians here in the middle of the nineteenth century, may well excite our wonder. Our medical colleges and medical associations, we fear, will not reach such cases as those of Dr. Grafton, Dr. Ball, and Dr. Lewis:—

"The following case may prove interesting to the profession, as showing, to some extent, the kind of medical testimony upon which criminal prosecutions are sometimes founded.

"On the 26th day of July last, Miss E. M. Smith, a beautiful and intelligent young lady, who is engaged in teaching a school in this city, was arrested and brought before Justice Bates, on a charge of manslaughter. Upon the examination it appeared that upon the 22d day of June, Miss S. had punished a boy, (9 or 10 years old) by whipping him with a green switch, about half an inch in diameter at the butt, some two feet long, and tapering off to a point; and that during the whipping, some three or four blows fell upon the head, two of which raised small stripes or welts, which remained for some four or five days. The teacher was represented as having corrected the boy not in an angry or excited manner, but properly and mildly. No unusual effects were observed upon the scholar at the time. He remained until the

close of the school, and spelt in his class as usual. In the afternoon he complained of some headache, and on the next day (the 23d) he vomited and bled at the nose. On the 24th he was at school again. At night he complained of some headache and nausea, and was quite restless. On the 25th he took some patent pills, but got no benefit from them. On the 26th he was confined to the bed, and on the 27th Dr. Grafton was called to see him, and continued in attendance until his death, which took place July 7th. This is the substance of the non-professional testimony in the case. For the prosecution, Drs. Grafton, Ball, Lewis, and Wood, were called; and for the defense, Drs. Mack, Chittenden, Barrows and Pease. We will give a brief synopsis of the testimony of these gentlemen. Those portions of the testimony of Drs. Grafton and Mack, which are italicised, are to be compared with each other, that their disagreement may be fully noted.

Dr. Grafton sworn—Was the attending physican in this case. Called first, June 27th. Patient had no high favor at any time. Saw nothing resembling fever. Skin usually of natural temperature; often cool and sweaty. Pulse at no time frequent and strong; towards the last frequent and feeble. Tongue had a whitish, or light yellow coat. Bowels rather costive. Vomitting once or twice after he saw him. A little delirious once or twice when roused to take a drink or medicine. This was only momentary. July 2d had a slight spasm of the arms and legs, which he (Dr. G.) attributed to irritation from operation of physic. No other convulsions at any time. Eyes never suffused or injected. Thought the pupils at one time not so large as they should be, considering the light in the room. Eyes were sensative to light, and he complained of noise hurting him. Had violent paroxysms of pain in ears and eyes; face would flush, and he would cry out, "Oh my eyes! oh my eyes!" Began to sink into a comatose state on the 5th, and died comatose on the 7th, at 8½, P. M. Conducted the post mortem. No evidences of external injury. *No passive congestion about the brain. Membranes injected with arterial blood.* Some gelatinous effusion upon the convolutions of the brain. Membranes adherent to the brain at a point on the top of the head, an half inch by two or two and a half inches in size. *Arachnoid thickened at the base of the brain. Adherent to pia mater on the surface of the hemisphere. Six or eight ounces of turbid effusion in the ventricles. Some flocculi of lymph in fourth venticle. No tubercles in the lungs. Mucous coat of stomach and bowels perfectly healthy. Considered the case one of well-marked inflammation of the membranes of the brain, affecting their entire substance. Symptoms were such as would not be present in any other disease. Pathological appearances unmistakable. The gelatinous effusion could not be produced except by inflammation. Believed the whipping was*

the exciting cause of the disease; that it must have operated by producing concussion of the brain. Made up his opinion that the blows were the cause of the disease, *from the absence of all other causes in this case. Thinks he could have detected any other causes if they had been present.*

Dr. Ball sworn—Has heard the testimony in the case. Has no doubt that the boy died of inflammation of the brain produced by the whipping. Whipping produced concussion on the brain. *Cross-examined*—Been practising some twenty years. Been to California. Is now improving a farm. Preaches some on Sundays. Has no doubt that the blows produced concussion on the brain. Counsel ask—What is concussion of the brain? Witness hesitated a long time, and at last, when the question was repeated, "they must excuse him, he was so confused he could not tell."

Dr. Lewis sworn—Was present at the post-mortem examination. Thinks the case was one of inflammation of the brain, or hydrocephalus. Thinks the blows were the *remote* cause of the disease. Congestion of the brain was arterial. *Cross-examined*—Arterial congestion all over the brain. Could not tell in what membranes. Could not tell what vessels were congested. Afterwards said he could tell, but would not. Is a regular practising physician. No boy's business whether he ever graduated or not. Finally, said he had graduated at Eairfield. Did not receive a diploma. Students often graduate without receiving diplomas. Counsel here inquired if there were not two methods of graduating, one with white and the other with black balls, and if it was not in the latter method that no diplomas were given?

Dr. Wood sworn—Has heard Dr. Grafton's testimony, and fully concurs with him in his views in relation to this case.

DEFENSE. *Dr. Mark sworn*—Was consulting physician this Had disagreed entirely with Dr. Grafton in their consultations. Considered the cause to have been one of bilious remittent fever of a low type. Had advised a gentle tonic plan of treatment. Patient at one time took thirty-five grains of quinine, by his advice, to arrest a chill that was expected in the morning; thought the patient was decidedly better after taking the quinine. Dr. Grafton refused to continue the tonic and sustaining course of treatment after the quinine was given, but placed the boy upon the use of calomel, morphine, croton oil, digitalis, antimony, wine of cochicum and nitre. He continued this course until the day before the patient's death. Believes these articles were highly injurious, the disease being one of a low grade of action, with no time any high vascular excitement. Thinks the patient died of passive congestion of the brain, supervening upon a state of debility; that the persistent use of opium, digitalis and tartarized antimony, had directly tended to this result. Was present at the post-mortem examination. Meningeal vessels deeply congested

with *dark venus blood.* Slight gelatinous or jelly-like effusion between the convulsions. Considered this the result of the simple congestion alone. *Might be produced by inflammation, but by itself was not positive evidence thereof.* Thought the small spot of adhesion of the dura mater on the top of the brain not recent. Judged by its firmness, and the absence of any effusion or discoloration in its vicinity. There was no plastic or organized lymph, or liquid or concrete pus found at any time during the examination. *There was no abnormal thickening or adhesion of the arachnoid.* This membrane is thicker at the base of the brain, and it is adherent by fine cellular substance to the pia mater over the surface of the hemispheres. Fluid in the ventricles was allowed to escape and run out upon the table, mixing with the blood, *so that it was impossibee to determine its character or quantity. Saw no flocculi of lymph in the fourth ventricle. The lungs were not examined. Saw nothing at the post-mortem examination, and had heard no testimony during this trial, that would justify him in attributing, in any way, this boy's sickness and death to the whipping he had received.* Inflammation of the brain from external injury would occur directly, in one of two ways. Either traumatic inflammation originated at the point of injury and traceable directly thereto, or inflammation ensuing upon the re-action from concussion, frequently originating at a point remote from the seat of violence, and exhibiting upon a post mortem examination no pathological connection between the external injury and the inflammation which had followed it. In these cases, the fact that the brain had suffered from concussive force, must be shown from the character of the symptoms which followed the infliction of the blows. *In the case now under consideration there were none of the symptoms of concussion of the brain described as having been present at the time of the whipping, and in fact, the character of the whip used was such as to preclude the possibility of any such effect having been produced.* Even if this case had been (as Dr. Grafton assumes) one of simple acute meningitis, *still no man could honestly and intelligibly testify to the absence of all other causes except the whipping to have produced it,* as there are some causes of this disease which are wholly unknown, and the presence of which, heretofore, *even Dr. Grafton himself would not be able to detect.*

Drs. Chittenden, Barrows and Pease, were sworn. Were all present at the post-mortem examiuation. They coincided with Dr. Mack in his description of the appearances observed, and sustained him in his views in relation to the case.

This closed the defense. The Justice promptly dismissed the complaint, and the citizens presented Miss Smith with a beautiful gold watch and chain as an evidence of their sympathy for her unjust and malicious *persecution.*

THE WEATHER, AND THE HEALTH OF THE CITY.

As we wrote at the begining of August we have to write still—there is no abatement of the intense heat which has rendered this season so memorable. The mercury continues, at the end of the first week in September, to rise to blood heat every day. The nights are also very oppressive.

From the meteorological table prepared by L. YOUNG, Esq., which will be found on another page, the reader will gather what a month was August, 1854, in the neighborhood of Louisville. Mr. YOUNG's fine farm is nine miles east of the city. On the first and last days of the month the thermometer rose to 100 deg., and to 101, 102½ and 103 degrees on intermediate days. We are quite sure we are safe in saying, that no one ever before saw the temperature so high in Kentucky. There were three falls of rain during the month, two of which were very slight; one on the 27th of one inch; less than two inches for the month. For the preceding month the rains were 1.60 inches, or some two and a half inches for the two months during which our most important crops are maturing. Such a temperature and drouth are very extraordinary, but until the crops are harvested it is impossible to judge with precision how disastrous the season has been.

The rain on the 27th of August was preceded in Louisville by a violent hurricane, which did great damage to buildings and caused the loss of many lives. The morning was hot and sultry—98 deg. at 11 o'clock—and the clouds afforded indication of rain. About 11½ o'clock denser clouds began to gather over the city, and a little before 12 M., the storm broke upon it in all its fury. The direction of the wind was from south-west to north-east, and its chief violence was felt from 12th to 9th streets, between which most of the houses sustained more or less injury. The Presbyterian church on the corner of 11th and Walnut streets, in an unfinished condition, was prostrated, and about sixty persons buried beneath its ruins, one-third of whom were killed, and many

others severely injured. The walls of the church fell inwards, and the roof following, the joists of the floor were broken through, and all were precipitated upon the congregation worshiping in the basement room below. Persons in the neighborhood describe the clouds which swept over the church as presenting the appearance of a water spout. The roof of the building was seen to rise two or three times before the walls gave way.

The relations of this remarkable condition of the seasons to etiology, are interesting. Health has prevailed to an extraordinary extent. It is the belief of some of the old practitioners of Louisville that so healthy a season was never before experienced in the city. All sources of malaria seem to have been dried up by the scorching sun. There is no moisture to favor vegetable decomposition any more than vegetable growth. The Ohio river is said to be lower than it has before been known to be in the last twenty years.

These facts are put upon record for the use of the future medical historian. They are certainly remarkable.

UNIVERSITY OF LOUISVILLE.

THE *preliminary* course of lectures in the Medical Department of the University of Louisville, will commence on the first Monday in October, and as these lectures constitute a virtual extension of the term, it is desirable that they should be attended by students. We assure our readers that the preliminary course is no mere matter of form, but that it will receive the earnest attention of the Faculty. October has been found a season quite as favorable to diligent study as any of the later months of the term, and our impression is, that the lectures delivered during that month are not inferior in interest to those which make up the regular course.

Professor FLINT is expected to return home early in September, and to be in Louisville by the beginning of October, about which time it is the purpose of Professor PALMER to remove to the city.

METEOROLOGICAL TABLE, FOR AUGUST.

BY LAWRENCE YOUNG, ESQ.

Day of month.	Morning.	2 o'clock, P. M.	Evening.	Mean temperature.	Barometer.	Rain-gauge.	Course of wind.	Remarks.
1	72	100	91	88	29.68		w.	Variable.
2	75	81	83	80	29.61	26	s. s. w.	do
3	71	100	89	84	29.50		w. s. w.	do
4	72	89	77	79	29.46		n.	do
5	60	86	70	72	29.54		n. w.	Clear.
6	56	96	81	78	29 53		w.	Variable.
7	66	86	72	75	29.48		e.	do
8	57	85	73	72	29.61		n. e.	Clear.
9	51	85	78	71	29.52		w.	do
10	71	91	84	79	29.48		w. s. w.	Variable.
11	71	97	86	85	29.48		s. w.	do
12	72	100	84	85	29.49		w. n. w.	do
13	75	99	90	88	29.50		w. s. w.	do
14	70	100	87	86	29.56		w.	do
15	74	78	77	76	29.53	30	calm.	do
16	55	86	75	72	29.56		w. s. w.	do
17	62	86	74	74	29.51		s. e.	do
18	59	88	80	76	29.57		e. n. e.	do
19	59	92	82	78	29.54		n. e.	do
20	60	95	85	80	29.61		s. s. w.	Clear.
21	59	99	83	81	29.64		s.	do
22	63	99	84	82	29.62		e.	do
23	65	102	93	87	29.60		e. n. e.	do
24	66	103	91	86	29.62		w. s. w.	do
25	66	103	91	87	29.59		e.	do
26	75	99	90	88	29.60		n.	Variable.
27	70	78	71	73	29.61	1.00	s. w.	do
28	69	92	86	28	29.63		n. e.	do
29	69	95	86	83	29.60		e. n. e.	do
30	70	99	90	87	29.60		s. s. w.	do
31	71	100	88	86	29.59		e.	Clear.
				80.6		1.56		

Record of Medical Science.

THE OPHTHALMOSCOPE.—*Sir:* On leaving England, the author of the following paper desired me to forward it to you, with a request for its publication. In complying with his wish, I think it only right to mention that, although Dr. Williams omits to notice the ophthalmoscope of Coccius, Dr. Anagnostakis himself has described not only that instrument (which certainly embodies the principle of his own), but likewise all others which have preceded it.

Retaining, as I do, a very strong opinion as to the mischief likely to result from the abuse of reflecting ophthalmoscopes, if indiscriminately resorted to by inexperienced persons, for investigating cases hastily classed as "incipient amaurosis." I have no doubt that a series of ophthalmoscopic examinations, made by accurate and prudent observers, would tend to elucidate many obscure points in the pathology of the eye.

A practical inconvenience I have met with, in using the reflecting mirror of Dr. Anagnostakis, is, that it occupies one hand of the observer; so that if, at the same time, he wishes to employ with the other hand a convex lens, to magnify the structures he is illuminating, his examination, unless an assistant be present, may sometimes be foiled through inability on the patient's part to raise the upper lid sufficiently to expose the pupil.

It has occurred to me, therefore, to fix into a spectacle-frame, to be worn by the observer, a pair of reflecting mirrors, differing from those employed by Coccius and Anagnostakis only in being of less diameter, and having a smaller central hole. By this contrivance both hands of the observer are left at liberty, and he is enabled, without assistance, to command the movements of the patient's lids with one hand, while with the other he uses the magnifying glass.

The focus of the mirrors should nearly correspond to the distance at which the observer's unassisted eye can ordinarily define minute objects. I think it better to place the lamp immediately behind the patient, rather than by his side, and at such a height that the rays of light just clear the top of his head. The observer, in making his examinations, will find it best to use only one of his eyes at a time; but two mirrors are desirable, as they balance each

other in the frame. Where a less concentrated light is preferred, plane glasses, silvered at the back, may be used instead of concave mirrors; a small round portion of the silvering being removed from the centre for the observer to look through.

I am, &c.

JAMES DIXON.

The Ophthalmoscope.—*The principles on which it is based; the manner of its application, and its practical advantages, with a report of some cases.*—By E. Williams, M. D., of Cincinnati.—Among the many modern discoveries which have given a new impulse to the progress of medical science, nothing has been more effectual than the discovery and perfecting of the methods of physical diagnosis. Enabled, by these valuable means, to determine, with precision, the seat and gravity of pathological changes, it is no longer necessary to resort to those vague and bewildering hypotheses under which, formerly, the physician took refuge whenever he encountered a deep seated and obscure disease. What astonishing advancements have been made in the differential diagnosis of diseases of the chest since that cavity has been rendered, as it were, transparent by auscultation and percussion! But it is in ophthalmology especially that physical exploration has very recently undergone the most striking and important developments. Notwithstanding the high degree of perfection to which this beautiful branch of surgery has been brought by the researches of modern observers, there still remained till lately one lamentable deficiency. Unable to examine directly the cavity of the globe of the eye, the surgeon was obliged to rely upon indirect symptoms for the diagnosis of many of the most serious affections of that organ. Thus, at an epoch when medicine and surgery everywhere diligently sought the lesions of structure that predominate in each disease, amaurosis, sthenic, asthenic, congestive, nervous, gouty, dartrous, etc., were still seen arrayed in the nosology of the ophthalmologist, terms by which the ingenious surgeon disguised his ignorance when the local lesion escaped his means of investigation.

The discovery, therefore, of a mode of examining directly the interior of the eye in the living subject is by far the most important improvement made in ophthalmology in modern times, and is destined to form an interesting epoch in the history of this science. The parts situated in the centre, and at the bottom of the eye, heretofore inaccessible to the view of the observer, may now, by the aid of the ophthalmoscope, be subjected to the most minute inspection, and their separate lesions recognised with the greatest precision.

The practical consequences, as regards diagnosis, prognosis and consequently, treatment, following the invention of an instrument

whereby this obscure cavity may be lighted up and examined, are of the highest importance. When, in this manner, we have inspected, one by one, all the parts in the interior of the eye without finding a lesion sufficient to explain the derangement of vision, then, and not till then, are we justified in assuming a more deeply seated alteration, or in resorting, to the hypothesis of an amaurosis *sine materiâ*.

The introduction of the ophthalmoscope opens up a new field for investigation. Should I, by this little essay, contribute to direct the attention of my professional brethren in England and America to this newly acquired territory, and stimulate some of them to explore and develope its rich resources, my object will be attained.

Setting out with this view, I hope to be able to serve the interests of the profession by giving a concise idea of the principle upon which this new method of examination is based; of the construction of the ophthalmoscope; and of the practical results to be derived from it.

Principle upon which the construction of the Ophthalmoscope is founded.—The pigmentary layer of the choroid is not sufficient to account for the black appearance of the bottom of the eye as seen through the pupil. The pigment would, indeed, absorb all the rays of light that enter the eye, were there no tissues situated anteriorly to it, capable of reflecting a portion of the rays. The vessels of the retina, and the optic nerve at its point of entrance, must certainly have this power. Besides, this, however transparent the retina may be supposed to be during life, a membrane so brilliant must necessarily reflect a large number of the luminous rays that fall upon it.

Why, then, does the pupil ordinarily appear black?—It is only in the refracting properties of the eye that the explanation of this phenomenon must be sought. Let us suppose that the eye to be examined looks at a luminous point. The rays projected into the eye from this point, being refracted, will be concentrated at a point on the retina and reflected in their turn by this membrane, they will again issue from the organ. But, since they must pass through the same media they had traversed on entering, they will undergo the same refraction, and be consequently collected at the point from which they first departed, in order to form there the retinal image.

From this it follows, that we could see the retina of an individual only when he looked attentively at our own eye, which, in that case, would be the luminous point. But it is clear, that the quantity of light which our own eye can project is too feeble to illuminate the bottom of the eye explored; and, in attempting to look into the interior of that eye by the aid of ordinary daylight, we only intercept with our head the rays which should illuminate the cavity. Placed, in this manner, in the shade, the pupil will naturally appear black.

After these considerations, it is easy to comprehend the object to be kept in view in using the ophthalmoscope. It is to throw into the eye, indirectly, a large quantity of light, in such a way that the observer, without intercepting the rays which enter, may receive directly into his own eye those reflected from the retina of the explored organ. With this view, any mirror may be employed, provided it be held obliquely with respect to the eye examined, and have a transparent spot, or a round hole, through which the observer may look.

Construction of the Instrument.—To Helmholtz, Professor of Physiology at Königsberg, is due the invention of the first ophthalmoscope. The limits of my paper forbid a detailed description of his instrument. It is only necessary to add, that this ophthalmoscope, with all the modifications to which it has been subjected, has but very imperfectly fulfilled the desired end; since not only the illumination which it affords is insufficient, but its complexity also renders it extremely difficult of application. My present object is, simply to describe the instrument of Dr. Anagnostakis, of which an account will be found in his original and admirable monograph above cited. Combining, as it does, the entire advantages of all the complicated and expensive ophthalmoscopes heretofore invented with the utmost degree of simplicity, facility of application, and portability, it will, without doubt, wholly supersede them. It is now exclusively used in France and Belgium, and the results of its application have been so satisfactory as to leave little else to be desired.

The instrument is composed of a small, round, concave mirror, about two inches in diameter, with a focal distance of four and a half inches; the silvered surface being accurately adapted to a plate of blackened copper. The centre of this little mirror is perforated by a small hole about three lines in diameter. Around the border of the glass and plate thus adapted is placed a brass rim, to which is attached a small handle of wood or ivory.

Method of using the Ophthalmoscope.—The pupil of the eye to be examined, if not already very large and fixed, should be previously dilated with atropine or belladonna. A dark room is selected; on a level with the patient's eye a bright lamp is placed upon a table as near as possible to the patient, who is seated beside it. The observer is seated upon a chair close in front of him, so that their eyes shall be upon the same level, and holds the mirror with the reflecting surface directed in such a manner that the rays reflected from the lamp are thrown upon the eye to be examined. Then, applying his eye against the central hole, the observer looks through it into the bottom of the eye thus illuminated; and, still holding the instrument constantly and steadily against his eye, he approaches towards or recedes from the patient till the reflection becomes small, brilliant, and oblong in form, and the

tissues at the bottom of the globe are recognized. If it is desirable to magnify the image of these parts, or if, in consequence of the extreme presbyopia of the patient, the observer is obliged to place himself at a great distance in order to see the deep tissues of the eye, a convex lens of suitable magnifying power must be used. Accordingly as the refracting power of the eye examined is greater or less, so must the eye of the surgeon be brought nearer to or removed further from the patient, in order to have a clear image. But to secure, at the same time, a sufficient illumination, the focus of conjunction of the mirror must fall upon the cornea of the eye observed. Since, however this focus, in a concave mirror, varies with the distance of the light from the mirror, by altering that distance, the focus may be lengthened or shortened at pleasure. Thus the instrument may be adapted to all eyes indiscriminately, whether myopic or presbyopic.

These are the general rules to be observed, and a little practice will give the surgeon that facility in the use of the instrument necessary to accurate observation.

A few words with regard to the appearances presented by the healthy eye are necessary to enable the reader to appreciate the pathological changes which the ophthalmoscope reveals.

On first looking, as above directed, into an eye free from disease, the pupil is seen of a reddish color, but none of the deeper structures are distinguished. As the parts at the bottom of the eye are necessarily seen through a refracting medium, which varies in degree in different individuals, it is evident that the surgeon must approach towards or recede from the eye inspected, till the proper focus is found; he will then see red vessels traversing the bottom of the organ. When these blood vessels are distinctly recognised, it is certain that the proper focal distance is attained, and the retina is in view.

This point, once gained, should be steadily preserved, while the patient is directed to turn his eye-ball in different directions; thus all the parts of the retina are successively brought into the field of vision. When the globe is turned upwards and inwards, a spot usually circular, is seen, much whiter than the surrounding parts, with a small umbilicated indentation in the centre, through which pass four blood vessels (two directed upwards, and two downwards), which branch off to the different parts of the membrane. But very frequently these principal trunks divide before entering the globe, and then a larger number of vessels are seen coming in at the white spot formed by the entrance of the optic nerve. Except this patch, which is quite white, the rest of the retina presents a reddish color, which becomes more decided towards the periphery.

I must now speak of the pathological changes which have been already revealed by the aid of the ophthalmoscope. I shall adopt

the natural order of noticing, first, the lesions that have their seat in the crystalline lens and viterous humor; second, those confined to the essential organ of vision, the retina.

I imagine that no opacity of the lens, however slight, can escape detection by the use of this instrument. Certain it is that opacities which even materially interfered with vision, but which escaped the scrutiny of the most experienced eye, have been readily detected by a resort to the ophthalmoscope. Some very eminent ocultists have reported cases of this kind. I have seen, at the clinic of M. Desmarres, beautiful opaque streaks in two lenses, which had eluded all other means of examination. When seen by the aid of this instrument, opacities of the crystalline appear as greyish-brown patches or streaks, of various sizes and shapes, upon a reddish back-ground, afforded by the illuminated retina. The importance, as to treatment and prognosis, of distinguishing the very commencement of cataract from impairment of vision produced by other more serious lesions of the vetreous or of the retina itself, is too obvious to need illustration. Who that has had even a limited experience in diseases of the eye has not seen patients with incipient cataract, tortured for months or years with leeches, cupping, blistering and a thousand pernicious drugs, under the supposition of a commencing amaurosis? And who has not been consulted by patients sent to be operated upon for cataract, in whom the lens was perfectly transparent?

The most common alteration of the vitreous humor is the appearance in its substance of deep brown or greyish corpuscles, in greater or less abundance. These bodies are of very various sizes and shapes. Sometimes we see only two or three large, irregular flakes, either floating separately in the liquid vitreous humor, or united to each other by a number of small filaments. At other times an immense number of smaller corpuscles, some angular, others in the form of shreds, and others, again, resembling pieces of membrane with ragged edges. When agitated by the sudden movements of the globe, these floating bodies are seen bounding and darting about in the interior of the eye, and gradually subsiding towards the inferior part when the organ is at rest.

Whether these substances are inflammatory exudations from the ciliary body, retina, or choroid, that have become detached; whether they are the remains of blood effused into the cavity of the eye; or, as is more probable, attributable sometimes to one and sometimes to the other of these sources, is not yet settled. Future observations can alone decide that question. Since, in all cases where these corpuscles exist, the vitreous humor is disorganised and liquid, I have thought that some of them might be opaque and thickened portions or shreds of hyaloid membrane.

Doubtless many cases of muscæ volitantes are produced by these little bodies floating before the retina. As, however, they are not

unfrequently seen in patients who are not at all troubled with muscæ, and are absent in others where this phenomenon is complained of, they cannot be considered as its sole cause. If small, and occupying the anterior segment of the vitreous body, they may throw no shade upon the retina, and hence not interfere in the slightest degree with the vision. But when of large size, and situated in the posterior segment, near the retina, they must necessarily derange the sight by mechanically intercepting the rays of light.

As examples are always more interesting and instructive than general descriptions, I will give a short account of some cases which I have had occasion, within the last few weeks, to observe at the London Ophthalmic Hospital, in the presence of Mr. Dixon and Mr. Bowman, who have themselves seen some of the alterations which it is my object now to describe. It is with great pleasure that I take this opportunity of thanking the eminent surgeons of this Institution for the kind permission they have granted me of attending their extensive and interesting practice; and especially of continuing those observations with the ophthalmoscope which I had commenced at Paris with Dr. Anagnostakis, the ingenious inventor of the ophthalmoscope which I use. The few cases inserted in this paper were also examined by the latter gentleman, and his experience in the use of the instrument is an additional guarantee for the accuracy of these observations.

Case 1. John C., aged 38, a farrier, states that fourteen years ago he received an incised wound of the lids of the right eye, but the globe was not touched, nor the sight injured. About the 1st of February last, a hammer-head, flying from the handle, struck him in the eye, rendering him for a few seconds insensible. On the return of consciousness he could not see with this eye. Two days after the accident, he applied at St. Thomas's Hospital, and was told his eye was destroyed. Leeches, fomentations, etc., were resorted to for the relief of suffering. Some time afterwards he came to the Royal London Ophthalmic Hospital to consult Mr. Poland, and has been since under his care.

Present Condition.—The patient still suffers occasional neuralgic pains in the eye and head. With this eye he distinguishes large objects, but very indistinctly; says, however, that his sight is slightly improving. The iris is separated from its ciliary attachment at the upper and external part, in more than a third of its circumference, and also at the lower and outer part to a somewhat less extent. Thus detached, this membrane is stretched across the aqueous chamber in the form of a rather narrow band, above and below which the bottom of the eye is seen, presenting a black appearance as through the ordinary pupil. With the naked eye,

nothing else can be observed; but with the ophthalmoscope a number of fine filaments, as of lymph, are seen extending from the inferior edge of this band to the original attachment of the iris. To the ciliary body above, where the iris has been detached, adhere by one extremity a number of shreds that float in the aqueous humor. In the vitreous humor, many brownish flakes are seen floating freely about; they subside slowly to the inferior part of the cavity when the eye is quiet, and, when it moves, mount up into the vitreous again. The retina, as indistinctly seen through the turbid refracting media, has its normal appearances. In this case the impairment of vision is evidently not dependent upon a lesion of the retina, but upon the mechanical impediment to the passage of light to that membrane by the separation of the iris and the foreign bodies in the vitreous humor. These corpuscles are doubtless flakes of effused lymph, or clots of fibrin from the effusion of blood at the time of the accident. The extravasation of blood into the vitreous humor, except as a consequence of mechanical violence is very rare. In a case, however, which I examined some time since with Mr. Bowman, there were seen, by the aid of the mirror, beautiful clots of blood floating in the substance of this humor; but while we were examining other patients the man went away, and I have not since been able to see him, so as to procure the history of his affection.

As alterations of the vitreous humor are generally accompanied by lesions much more serious of the retina, I will give under another head some additional examples of synchysis with floating corpuscles.

Lesions of the Retina.—By far the most interesting pathological changes that occur in the eye are those involving the retina. The anatomical lesions that affect either directly or indirectly this delicate membrane are somewhat numerous; but I shall notice a few only of the most prominent changes, and such as are very readily detected by the mirror.

Dropsy of the Retina.—By this is meant an effusion of a serous fluid beneath the retina, which detaches it from the choroid, and thus entirely annihilates its functions.

CASE 2.—Thomas W., aged 38. As this patient is completely deaf, but little definite information could be collected as to his previous history. It seems that about sixteen years ago, after falling through the ice, he began to suffer pain in the right eye, with headache, giddiness, etc., and his sight failed so rapidly that in a few weeks he could distinguish no objects. Since that time his eye has remained in about the same condition. He still has occasional pains in the globe, and headache.

Present Condition.—The left iris is somewhat discolored, the

pupil preternaturally dilated and sluggish; sub-conjunctival vessels enlarged, tortuous, and of a bluish color. This eye is very myopic, and the sight much impaired, but at a distance of about two inches he reads clear type.

The pupil of the right eye is largely dilated and fixed. There is varicosity of the sub-conjunctival veins, and a leaden hue of the sclerotic; lens transparent. With the naked eye nothing else is seen. No perception of light.

With the ophthalmoscope the vitreous is seen to be slightly opaque, and containing a considerable number of brownish bodies resembling flakes of lymph, which are constantly agitated by the movements of the globe. The entire retina, separated from the choroid, is pushed forward by a clear liquid in the form of a pouch, which surrounds the entrance of the optic nerve, not unlike the air cushions used for sitting on in travelling. The entrance of this nerve is seen as a yellowish-white, circular spot, through which pass three blood-vessels, which mount up over the pouch formed by the retina, and, dividing into small branches, spread over its surface. This liquid pouch is thrown into beautiful undulations by the movements of the globe, and the vessels running over its surface alternately bend upon themselves, and elongate with the folding and unfolding of the waving retina.

There is here a large effusion of serum between the retina and the choroid, which has separated all their attachments, and entirely destroyed the power of perceiving even the strongest light.

Case 3.—James F., aged 45, of robust constitution, enjoyed good sight till about four months ago, when, in running violently, he fell and received a severe shock. About three weeks afterwards accidentally covering the right eye with his hand, he perceived to his astonishment, that he could not see with the left. He has never experienced the slightest pain or uneasiness in this eye. Of objects placed before or to the right side of him he has not the faintest perception; but he recognizes very imperfectly large bodies situated towards his left side. The pupil is more dilated than the other, and immovable.

Examined with the mirror, the refracting media appear perfectly transparent. The retina presents no abnormal vascularity, but it is easy to recognise that this membrane, to a large extent, and all around the entrance of the optic nerve is elevated by a liquid, and it has a trembling movement during the oscillations of the eye. What is curious in this case is, that during these movements we do not see those deep folds which the membrane ordinarily forms in dropsy of the retina. Here the folds are superficial, and the undulations quite limited. These phenomena, taken in connec-

tion with the pearly color which the elevated membrane presents, can only be explained by supposing that the retina is raised up by a turbid liquid, as we often observe in pericarditis and other serous inflammations.

CASE 4.—John R., aged 48, has been from childhood subject to blepharitis, but enjoyed good sight. About fourteen years ago he received an injury of the left eye from the explosion of a soda-water bottle. For some months afterwards he had inflammation and pain in the eye; these at length passed off, and left his vision unimpaired. Nearly nine years ago, he received a blow upon the same eye with a fist, and instantly ceased to see. This injury was followed, during several months, by severe pain, which finally ceased. For several years he has been an occasional attendant at the Hospital for the blepharitis to which he is subject.

Present Condition.—The form and consistence of the globe are natural; conjunctiva, sclerotic, and cornea, healthy. The patient has not any perception of light, except when a bright lamp is held towards his right side; the iris, at the internal part, for nearly two-thirds of its circumference, is separated from its ciliary attachment. With the naked eye, in a strong light, when sudden movements are communicated to the globe, vague and undefined undulations are seen at the bottom of the eye.

Examination with the Ophthalmoscope.—A great number of corpuscles are seen floating in the substance of the vitreous humor. The crystalline lens, as proved by the catoptric test, has entirely disappeared. Nearly the internal third of the retina is detached from the choroid, and pushed forward into the vitreous humor, in the form of a vesicle, filled with transparent liquid. When the globe oscillates, this vesicle is thrown into waves, which disappear when it is still. Two blood vessels pass over, and ramify minutely upon the surface of this pouch, and, during its undulations, alternately become curved and straight, not unlike the long grass at the bottom of a clear running stream. The entrance of the optic nerve presents its usual appearance, but the part of the retina not detached from the choroid has a slightly opaque appearance, as if its meshes were infiltrated with a milky fluid.

Of the three well-marked cases of dropsy of the retina above described, there was only one in which the slightest appearance of the disease could be detected with the unaided eye. In the last mentioned patient, the iris was detached to so great an extent as to allow the entrance of a great quantity of light, and even then only a faint glimpse of the waves of the detached retina could be perceived by the naked eye. With the mirror, nothing was easier than to see at once the character and extent of the lesion in all the cases. No magnifying glass was used. It would seem that th

is one of the commonest, and certainly most serious affections of the retina, as many cases of it have been seen, and no cure has as yet been published. It is not probable that the retina, once detached from its connexions with the choroid, can ever again resume its functions.

Case 5.—*Varicosity of the Vessels of the Retina, with Ecchymosis.*—Alfred C., aged 12, of lymphatic temperament, has had very imperfect vision since birth, and has been taught to read raised letters by the touch. He is so extremely myopic that he is obliged to place objects at a distance of one inch only from his eye in order to see them. At that distance, he recognizes very large letters. There is a constant oscillatory movement of both globes. The irides are of a natural color; the pupils are but little influenced by the stimulus of light; the left pupil is larger than the right. The pupils having been dilated with atropine, the eyes were examined with the ophthalmoscope. The refracting media are perfectly transparent. One sees the retina at the first glance, from a very short distance,—a phenomenon which is only explained by the extreme myopia or prolongation of the antero-posterior axis of the eye. The vessels of both retina are so much developed as to appear varicose, and here and there are seen patches of ecchymosis, which are especially numerous and large in the right. At the inferior part of the left retina, places are observed where that membrane seems atrophied and thinned, and permits the tissue of the choroid to appear through it. The vessels in these places are evidently elevated above the level of the membrane. I neglected to state that this boy cannot distinguish colors, even if he has any idea at all of them. His sight is not improved by concave glasses, but rather made worse; but with a convex lens, he sees a little better. If this imperfect vision depended, as it does in some cases, upon the extreme myopia alone, the sight would be improved by concave, and made worse by convex glasses; the reverse of which is here the case. There must then be a congenital defect of the retina, although no very striking deviation from the natural appearance is seen by the aid of the ophthalmoscope.

Effusions of blood in the substance of the retina, as in this case, are very common, particularly in persons predisposed to congestion of the choroid.

The extent of these ecchymoses varies from that of small specks to patches involving nearly the whole of the retina. Extravasation of blood into the substance or beneath the retina, is, doubtless, the cause of many cases of sudden amaurosis.

Case 6.—*Brown spots upon the Retina.*—William A., aged 52, about two years ago, was seized with partial loss of sensibility

in the inferior extremities, which still persists. He has occasional cramps in the legs, and some difficulty in retaining his urine and fœces. Some twelve months since he remarked that his range of vision was diminishing—that he could only see well immediately in front of him. This narrowing of the field of vision has increased till now.

Present Condition.—Range of vision in both eyes very limited. He cannot see two points that are separated more than an inch and a half from each other. The third pair of nerves partially paralyzed. Iris natural and active in both eyes.

With the mirror, the refracting media are found transparent. Both retina are spotted with deep-brown patches, which are most numerous towards the periphery; but there are some immediately around the entrance of the optic nerves. What these brown spots are is not determined. They may be the remains of old ecchymoses, or else accumulations of pigment, such as are sometimes seen along the course of the vessels of the subconjunctival cellular tissue. These brown specks are very frequently observed in cases of impaired vision from congestion of the choroid; and, being frequently found intermingled with patches of recent ecchymosis, it is not improbable that they are the remains of old extravasations of blood.

The derangement of vision in this patient is much greater than can be explained by the alteration observed in the retina, and hence must be attributed to a lesion more deeply seated, the existence of which is rendered certain by the general symptoms.

Case 7.—*Greyish-white patches upon the Retina.*—Mary J., aged 67. Has always been myopic. She says her right eye has been weaker than the left since childhood. In 1841, she fell down in a fit, probably epileptic, and struck the right eye upon the corner of a box. About twelve months afterwards she had another similar fit. She has a cataract in the left eye, which dates from 1842, and which now seems to be undergoing gradual absorption, and the sight of the eye is slightly improving. As to the right eye, she is not aware that she has ever had cataract in it, but says the sight of it has been much impaired for many years. The lens has been dislocated, either spontaneously or by the force of the fall she has had, and is now seen, much reduced in size, lying in the inferior part of the vitreous humor, behind the iris, which possesses its natural color. The pupil is languid in its movements. With this eye she sees to find her way about the streets, and can discern large letters. There is dissolution of the vitreous humor as is proved by the trembling of the iris during the movements of the eye.

With the ophthalmoscope is seen (as also with the naked eye)

the nucleus of the right lens lying at the bottom of the globe. In the liquid vitreous humor are observed a number of brownish corpuscles of various forms and sizes, which are constantly agitated by the oscillations of the globe.

But the most interesting alterations are in the retina. It is seen at the first glance, and from a very short distance, without the aid of a convex glass, traversed by a great number of extremely developed blood vessels. The white patch formed by the entrance of the optic nerve is very small, but still quite distinct. A little above, and externally to this point is recognised an irregular patch, with perfectly circumscribed border, about two lines in its longest diameter, and of a pearly tint. This patch is slightly elevated above the level of the rest of the retina, and is streaked with a large number of varicose vessels, among which are seen reddish-brown specs, apparently caused by extravasated blood. Smaller patches, pearly white, but offering, in other respects, exactly the same characters, are seen here and there in other parts of the retina. What the nature of this lesion is, it is impossible, in the present state of science, to say. It is certain that the retina at these points has lost its natural transparency; but, whether that depends upon a partially organized exudation beneath the retina, upon a degeneration of that membrane itself, or upon earthy deposits, we have as yet no means of determining.—*Medical Times and Gazette, July* 8, 1854.

Luxation Backward of the Internal Extremity of the Clavicle.—*Reduction.*—John Combe, about 26 years of age, small and muscular, was brought to the hospital some moments after the following accident:—

He was walking in the street; he slips, falls forward, and strikes the anterior border of the clavicle against a stick of wood. Once on his feet, they were compelled to support him on each side to bring him to the hospital, two or three hundred yards distant.

The right shoulder was thrown backwards, and the neck was so bent forward that the chin rested on the sternum. The veins of the neck, and sternum temples were much dilated; the venous congestion rendered the mouth and lips livid. He staggered when he endeavored to walk, and responded with much difficulty to the questions proposed to him.

On raising the head, the nature of the accident was clearly seen.

The prominence of the sternal extremity of the clavicle was effaced. The direction of the bone could be traced with the fingers, from its acromial to its sternalextremity it inclined backwards to disappear behind the sternum.

I ordered an assistant to place his knee between the shoulders of the patient, to sever the anterior part of the shoulders and to maintain a vigorous traction backward. A second assistant steadied the head by placing his hands on the chin. At the same time, I endeavored to slip my fingers behind the clavicle, near the shoulder, to force the clavicle forward. This first effort was fully successful; a distinct sound advised us that the bone had resumed its normal position. The venous obstruction, and the semi-comatose state produced by the pressure of the clavicle upon the brachio-cephalic trunk disappeared, and in two or three minutes the patient had entirely recovered his senses and walked very well. A little swelling followed but it had almost disappeared, when the patient left our wards ten days afterwards.—*Edinburgh Med. and Surg. Jour.*

THE USE OF IPECACUANHA IN CERTAIN STOMACH DISORDERS.—By Dr. BUDD, Physician to King's College Hospital.—Ipecacuanha increases the secretions of the stomach in a greater degree, probably, than any other medicine we possess. It increases, as is well known, the secretion of the skin, and the secretion of the mucous membrane of the air-tubes; but it increases in much greater degree, the secretion of the mucous membrane of the stomach, to which it is directly applied. An emetic dose of ipecacuanha causes a copious secretion of mucous and of gastric acid, which is rejected by vomiting. Doses too small to excite vomiting or nausea increase the secretion of the gastric juice, and in so doing render digestion quicker and stronger. Its right application, therefore, is where digestion is slow, or where, through slow and feeble digestion, nettlerash or other secondary disorders are bred.

Small doses of ipecacuanha were first recommended as a remedy in indigestion in a tract published in 1785, by a French naturalist, M. Daubenton, well known from the aid he afforded Buffon in the production of his splendid work on natural history. Daubenton was educated for medicine, but left the practice of it for his favorite study of natural history. In the tract in which he recommends small doses of ipecacuanha in indigestion, he says: "I have repeatedly experienced beneficial effects from it in my own person that surpasses my expectations, and I have prescribed it to many others, with whom it has had similar success. I consider it, therefore, a duty to publish the observations on the utility of this simple remedy, for the benefit of those persons who have delicate stomachs, and as particularly useful in that form of indigestion which is so frequently found to attend the turn of life."

Daubenton is careful in stating that the cases in which ipecacuanha is useful are where digestion is slow,—where the food lies

heavy on the stomach, and there is an inability for mental or bodily exertion for some time after meals,—a kind of disorder which is, he states, especially common in men of middle age, or beyond it, who lead sedentary lives.

He believed that ipecacuanha owes its efficacy in such cases to its exciting peristaltic action in the stomach, and imparting an energy to its glands.

He recommends that it should be given in the morning fasting, and in quantity sufficient to occasion a slight feeling of vermiculating motion in the stomach, but without causing any sensation of pain or nausea. The quantity requisite to produce this effect varies, he says, in different persons from a quarter of a grain to two grains. He advises, therefore, that very small doses be given at first, which may be gradually increased till a sensible effect is produced.

In the beginning of this century an English translation of Daubenton's tract was published by Dr. H. P. Buchan, and rapidly sold.

In the preface to this translation, Dr. Buchan says:—"The translator of this little tract can truly declare, that since he became acquainted with the information contained in it, his practice in the complaints here enumerated have been more successful and satisfactory than it was previously, and his sole motive for publishing the translation, which was originally made for his own private use, is to extend the knowledge of what he conceives to be a practical improvement in the art of medicine."

The medicine in this application being thus introduced to the profession in this country, was much employed for a time, and then fell into disuse, in consequence, the author believes, of its having been employed indiscriminately in various kinds of indigestion, and often, therefore, in kinds to which it is not suited, and which it would tend to aggravate rather than remedy.

It is clearly impossible that any medicine having a definite mode of action—whether it be to increase secretion or to restrain it—can be used successfully in stomach disorders, unless the various kinds of stomach disorders be distinguished, and the medicine be given only in that kind, or in those kinds, to which it is suited.

Here, as in other departments of medicine, we must rightly distinguish kindred disorders before we can learn the right use and the power of remedies.

The author has used ipecacuanha as a remedy for indigestion for several years, and he believes that there is no other medicine we know of so effectual in removing the uneasiness and sense of oppression after meals, and the various other evils that result from slow digestion.

Small doses of rhubarb, ginger, and pepper, have a similar kind

of action, and may be given singly or together for the same pu pose. The author generally prescribes ipecacuanha, from half grain to a grain, in a pill, with three or four grains of rhubar With many, a favorite remedy for the discomfort resulting fro slow digestion is a grain of cayenne pepper, with three or fo grains of rhubarb. The best time for giving medicines for th purpose in question is just before dinner, and before any oth meal after which a sense of oppression is usually felt.—*Medic Times and Gazette, April* 15, 1854.

Suture of Tendons.—In April last, M. Chessaignac present to the Surgical Society of Paris a young girl, who five monti previously had received, by falling upon a piece of glass, a transverse wound at the anterior and inferior part of the fore-arm. This having suppurated some time, healed up; an inability to flex the thumb and indicator followed, and the patient was taken to St. Antoine Hospital. It was evident that the inferior end of the tendon adhered firmly to the cicatrix. It was necessary to replace the superior end of the tendon in opposition with the inferior; to effect this the following operation was performed:

The injured tendons were exposed by dissecting up a rectangular flap, the lower margin of the wound corresponding to the cicatrix. The tendons were intact; and the median nerves occupied their proper position. The superior extremity of the cut tendons not being in view, the dissection was carried a little higher up, when the abrupt and bulky end of a tendon was seen. This extremity was drawn in contact with the lower one, and they were kept in position by a suture, the ends of which were brought out of the wound. The flap of integument was replaced by sutures and dressings, and the hand and fore-arm were kept in a forcibly flexed position. At the end of six days union was almost complete, and the patient began to flex the indicator. In less than fifteen days the patient was discharged, having recovered the ability to flex the thumb and forefinger.—*Gazette des Hôpitaux.*

Delirium Tremens in a Child.—The *Winchester Emblem*, Iowa, mentions a fatal case of the Delirium Tremens in a child four years of age. The boy was a common *drunkard.* The *Emblem* says, that on the 18th ult., his father, who had been fishing, gave the child a bottle of whiskey to carry; he drank too much and was taken very sick, then with twitching in one arm and side, which was soon followed by the delirium tremens which lasted twelve hours.

It was a terrible sight to see the little fellow screaming at and jumping from the snakes he thought he saw.